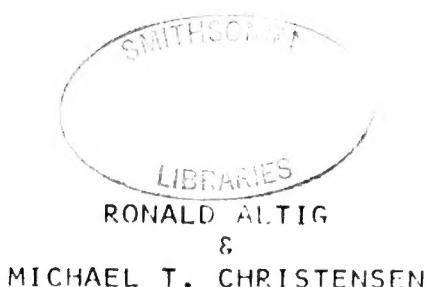
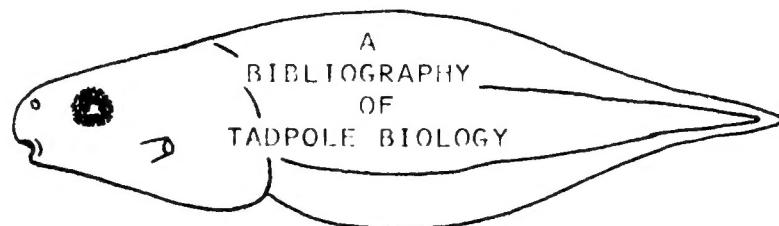








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DEPARTMENT OF ZOOLOGY  
MISSISSIPPI STATE UNIVERSITY

SMITHSONIAN  
HERPETOLOGICAL INFORMATION  
SERVICE  
NO. 31

1976

Division of Reptiles & Amphibians  
National Museum of Natural History  
Washington, DC 20560



## INTRODUCTION

Herein we have tried to compile a bibliography concerning tadpole biology. Zoological Record, Biological Abstracts, Herpetological Review and its various derivatives, and the bibliographies of important summary works were scanned. Such facets as experimental embryology, regeneration studies, descriptive and developmental anatomy, embryology, biochemistry, serology, and immunology were omitted unless they were judged to relate directly to either the identification, behavior or ecology of the animal. Emphasis was placed on identification, external morphology and development, ecology, behavior, organismal physiology, etc. References were frequently added on breeding biology, eggs and postmetamorphic juveniles.

Users are urged to check original citations. All searching was done manually by inexperienced personnel.

This is a revised edition (about 180+ references added) of the previous bibliography distributed privately by the authors. Searching ceased on 30 July 1975. Technical assistants and persons supplying additions to this revision are gratefully acknowledged.

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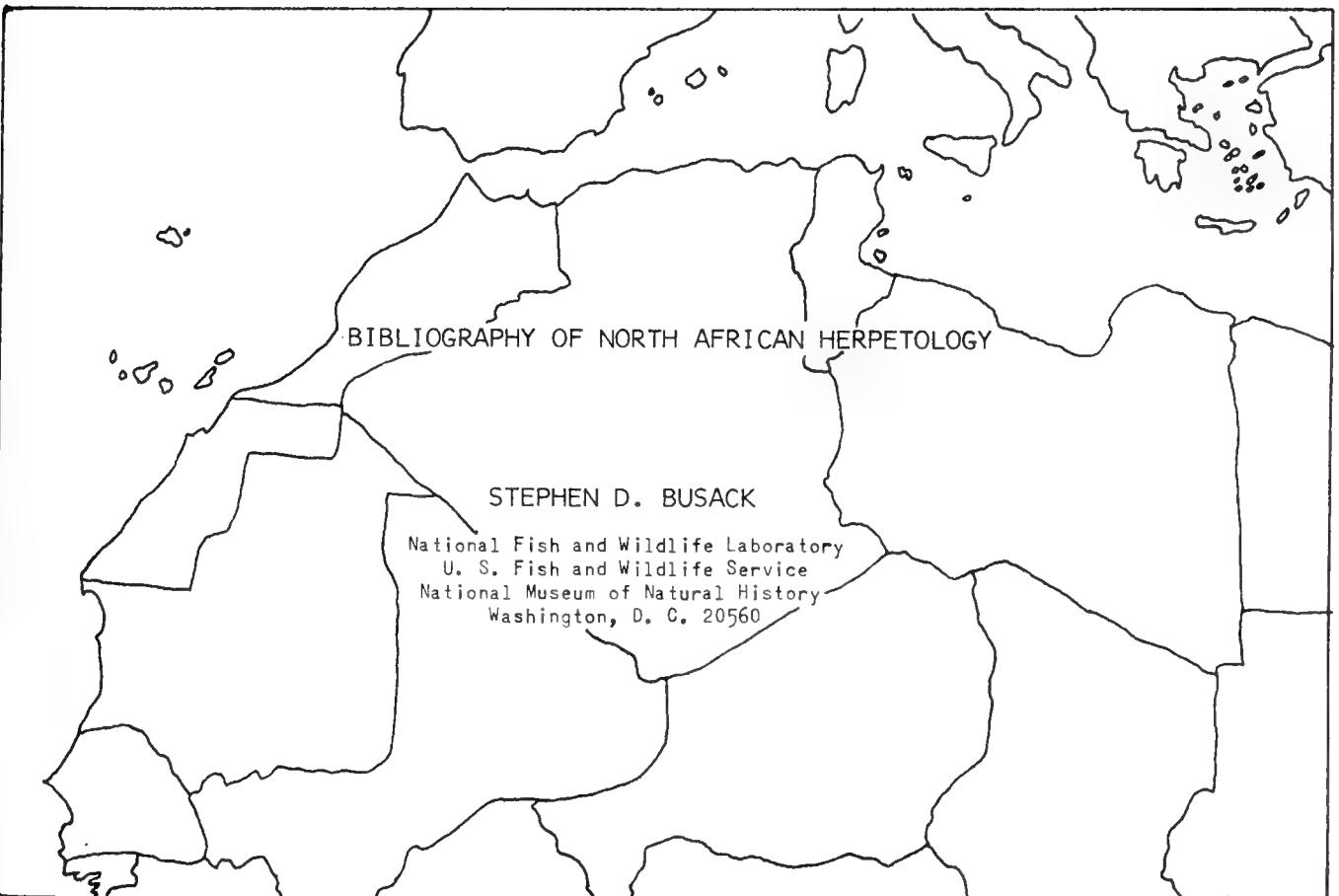
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## INTRODUCTION

Seurat (1930:203-216) provides a historical review of the literature of North African herpetology from the sixteenth to the early twentieth century. Such a review is, by necessity, concerned only with major papers. I have tried to present a complete review of the literature concerning the region generally defined as Palearctic Africa; papers concerning circum-mediterranean regions are included when considered relevant.

Sources for this bibliography were varied. The Zoological Record (1864-1971), Herpetological Titles and Reviews (1973), and Herpetological Review (1967-1975) provided most information. Supplemental titles were located in the library of the Division of Reptiles and Amphibians of the National Museum of Natural History.

Some references on world-wide herpetology are omitted in spite of the fact that Palearctic Africa is included within them. Persons using this bibliography are advised to refer to the major works of Boulenger (catalogues), Duméril and Bibron, Gray, Jan, et. al., for additional data.

Citations are arranged alphabetically by author; multiple citations for a single author are listed by ascending date and then alphabetically by the first significant word of the title for multiple papers in a single year.

In spite of careful review, errors of omission will occur. For these, I apologize, and request your assistance in locating them.

## ACKNOWLEDGMENTS

I wish to thank Carolyn Hahn, Amy Levin, Jack Marquardt, and Betty Schwartz of the Natural History Museum Library, Smithsonian Institution, for patient and conscientious assistance in locating many of the references. Jane S. Peters kindly typed the final manuscript copy.

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KEYS  
TO  
THE  
HERPETOFAUNA  
OF  
THE  
EASTERN HEMISPHERE

PART III ASIA

GEORGE JACOBS

RESEARCH ASSOCIATE  
DIVISION OF REPTILES & AMPHIBIANS  
NATIONAL MUSEUM OF NATURAL HISTORY

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Amphibia fam. to sp., larva sp.  
 Caudata sp. adult & larvae  
 Gymnophiona gen., sp.  
 fam. to sp.  
 Sauria fam. to sp.  
 Serpentes fam. to sp.  
 sp.  
 Testudines fam. to sp.  
 Acanthosaura sp.  
 Agkistrodon halys subsp.  
 Agkistrodon strauchi, halys,  
     blomhpffi, intermedius diff.  
 Amblycephalus sp.  
 Bufo sp.  
 Bungarus  
 Calamaria sp., subsp.  
 Cantovia, Gerardia, Herpeton diff.  
 Chamaeleonidae gen., sp.  
 Chamaeleontidae see Chamaeleonidae  
 Chitra, Trionyx, Pelochelys diff.  
 Chrysopelea sp., subsp.  
 Cistoclemmys, Cistudo, Pyxidea,  
     Cuora, Lutremys, Notochelys,  
     Cyclemys diff.  
 Coluber, Coronella, Meizodon,  
     Aeluroglena diff.  
 Cophophryne sp.  
 Crocodylus palustris subsp.  
 Crotalidae subfam., gen.  
 Cuora, Cyclemys, Cistudo, Pyxidea,  
     Cistoclemmys, Lutremys,  
     Notochelys diff.  
 Cyclemys, Nicoria, Notochelys,  
     Pyxidea, Geomyda diff.  
 Cylindrophis sp.  
 Dendrophis sp.  
 Dipsadinae sp.  
 Draco sp.  
 Echis sp.  
 Emydidae gen.  
 Eryx sp.  
 Eryx johnii subsp. diff.  
 Eumeces sp.  
 Geomyda, Nicoria, Notochelys,  
     Pyxidea, Cyclemys diff.  
 Gerardia, Herpeton, Cantoria diff.  
 Hemidactylus brookii geog. forms  
 Heosemys sp.  
 Herpeton, Cantoria, Gerardia diff.  
 Hynobiidae Larvae gen.  
 Hynobius sp.  
 Japalura sp.  
 Leptobrachium sp.  
 Leptodactylidae gen.  
 Lutremys, Cistudo, Pyxidea,  
     Cistoclemmys, Cuora, Notochelys,  
     Cyclemys diff.  
 Lycodon sp.  
 Lycodon subscinctus subsp.  
 Lygosoma (grouped) sections  
 Megalophrys sp.  
     tadpoles  
 Microhyla sp.  
 Morenia, Orlitia, Ocacia diff.  
 Naja lapitjoa subsp.  
 Naja naja subsp.  
 Natricinae gen.  
 Nectophryne sp.  
 Nicoria, Notochelys, Cyclemys,  
     Pyxidea, Geomyda diff.  
 Notochelys, Cistudo, Pyxidea,  
     Cistoclemmys, Cuora, Lutremys  
     Cyclemys diff.  
 Ocacia, Orlitia, Morenia diff.  
 Pelochelys, Trionyx, Chitra diff.

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Peltastes sp.  
  cherainella diff.  
Psammophis sp.  
Pseudoxenodon macrops, dorsalis  
  diff.  
Pyxidea, Cistudo, Cistoclemmys,  
  Cuora, Lutremys, Notochelys,  
  Cyclemys diff.  
Pyxidea, Notochelys, Nicoria,  
  Cyclemys, Geomyda diff.  
Rana sp.  
  migromaculata subsp.  
  tigrina subsp.  
Rhacophoridae gen., sp.  
Rhacophorus sp.  
Salea sp.  
Spalerosophis sp.  
Staurois (tadpoles) sp.  
Stenodactylus sp.  
Tachydromas sp.  
Teratoscincus sp.  
Testudinidae gen.  
Tortriciden see Xenopeltinae  
Trimeresurus sp.  
Trionychidae sp.  
Trionyx, Pelochelys, Chitra diff.  
Typhlops sp.  
Typhlops loveridgei, floweri, porrecta diff.  
Uropeltidae sp.  
Uropeltis rubrolineatus, philipsonii diff.  
Varanus sp.  
  subgen., sp.  
Viperidae  
Xenopeltinae sp.  
Zaocys dhummades, oshimai, migromarginatus diff.

Gray, P.Z.S. Lond. 615, 1872  
Gray, P.Z.S. Lond. 615, 1872  
Boulenger, P.Z.S. Lond. 267, 1919; Loveridge, Bull. M.C.Z. 87:1, 1940  
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Gray, P.Z.S. Lond. 173, 1863  
Siebenrock, Sitz. Ak. Wien 112:333, 1903  
Boulenger, Rec. Ind. Mus. 20:1, 1920  
Schmidt, Bull. A.M.N.H. 54:553, 1927  
Annandale, Rec. Ind. Mus. 15:51, 1918; Boulenger, Rec. Ind. Mus. 20:1, 1920  
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Pope, Pope, Am. Mus. Nov. 620, 1933; Maslin, Copeia 18, 1942  
Gray, P.Z.S. Lond. 76, 1864  
Siebenrock, Sitz. Ak. Wien 111:807, 1902  
Boulenger, P.Z.S. Lond. 267, 1919  
Constable, Bull. M.C.Z. 103:57, 1949  
Boulenger, Cat. Snake, I, 1893  
Constable, Bull. M.C.Z. 103:57, 1949; after Smith, 1943  
Smith, I. Bombay N.H.S. 35:615, 1932  
Wertens, Ath. Senck. Nat. Ges. 466:235, 1942  
Gray, Zool. Misc. 68, 1842; reprint S.S.A.R., 1971  
Jan, Arch. Nat. 28:238, 1862  
Stejneger, Proc. U.S.N.M. 66:1, 1927

## ASSAM

Anura (larvae) fam.  
Tropidophorus sp.  
Varanus sp.

Annandale, Rec. Ind. Mus. 15:25, 1918  
Smith, P.Z.S. Lond. 775, 1923  
Smith, I. Bombay N.H.S. 35:615, 1932

## BAY OF BENGAL ISLANDS

Rana erythraea group

Annandale, Mem. As. Soc. Bengal 6:119, 1917

## BURMA

Amphibia gen., sp.  
Reptilia gen., sp.  
Sauria fam. to sp.  
Serpentes poisonous, nonpoisonous  
  diff. fam. to sp.  
Testudines fam. to sp.  
Dyscophidae gen.  
Enyystomatidae larva sp.  
Geomyda sp.  
Gymnodactylus sp.  
Leptobrachium sp.  
Megalophrys sp.  
Rana erythraea group  
Testuda sp.  
Tropidophorus sp.  
Varanus sp.

Boulenger, London 1890  
Ibid  
Smith, London, II, 1935  
Wall, J. Bombay N.H.S. 14:93, 1902  
Smith, London, II, 1943  
Smith, London, I, 1931  
Boulenger, An. Mag. N. H. 13:42, 1904  
Rao, Naraya, Rec. Ind. Mus. 15:41, 1918  
Annandale, Rec. Ind. Mus. 9:63, 1913  
Annandale, Rec. Ind. Mus. 9:309, 1913; Hora, Rec. Ind. Mus. 35:369, 1923  
Boulenger, Am. Mus. Genoa 27:748, 1889  
Boulenger, Am. Mus. Genoa 24:512, 1887  
Annandale, Mem. As. Soc. Bengal 6:119, 1917  
Annandale, Rec. Ind. Mus. 9:63, 1913  
Smith, P.Z.S. Lond. 775, 1923  
Smith, I. Bombay N.H.S. 34:367, 1930; Ibid. 35:615, 1932

## BONIN ISLANDS

Amphibia fam. to sp., tadpole  
Reptilia fam. to sp.

sp. Stejneger, U.S.N.M. Bull. 58, 1907  
Stejneger, U.S.N.M. Bull. 59, 1907

## CEYLON

Amphibia gen., sp.	Boulenger, Londond, 1890
fam. to. sp., adult & larvae	Kirtisinghe, Colombo, 1957
Reptilia sp.	Gunther, London, 1864
gen., sp.	Boulenger, London, 1890
subord. to sp.	Deraniyagala, Ceyl. J. Sci. vol I, 1939; Ceyl. Nat. Mus. Publ. II, 1953; Ibid. III, 1955
Sauria fam.	Deraniyagala, Spol. Zeyl. 16:139, 1931
fam. to sp.	Smith, London, II, 1935; Taylor, U. Kans. Sci. Bull. 35:1525, 1953
Serpentes poisonous, nonpoisonous	Wall, J. Bombay N.H.S. 14:93, 1902
fam.	Wall, Colombo, 1921
fam. to sp.	Smith, London, III, 1943
sp.	Taylor, U. Kans. Sci. Bull. 33:519, 1950
Testudines subord.	Deraniyagala, Spol. Zeyl. 16:43, 1930
sp.	Smith, London, I, 1931
Acontias sp.	Deraniyagala, Spol. Zeyl. 16:139, 1931
layardi, sarasinorum diff.	Deraniyagala, Spol. Zeyl. 18:231, 1934
Agamidae gen.	Deraniyagala, Spol. Zeyl. 16:139, 1931
Calotes sp.	Deraniyagala, Spol. Zeyl. 16:139, 1931
Caretta sp.	Deraniyagala, Spol. Zeyl. 16:139, 1931
Carettidae gen., sp.	Deraniyagala, Colombo M.N.H., 1939
Ceratophora sp.	Deraniyagala, Spol. Zeyl. 16:139, 1931
Chamaeleidae gen., sp.	Werner, Das Tier, 27, 1911
Chamaeleontidae see Chamaeleonidae	
Cheloniidae gen.	Deraniyagala, Spol. Zeyl. 16:43, 1930; Ibid., Ceyl. J. Sci., 1939
Crocodyloidae fam., gen.	Deraniyagala, Ceyl. J. Sci. I, 1939
Crocodylus sp.	Deraniyagala, Spol. Zeyl. 16:89, 1930
Gekkonidae gen.	Deraniyagala, Spol. Zeyl. 16:291, 1932
Gonatodes sp.	Deraniyagala, Spol. Zeyl. 16:291, 1932
Gymnodactylus sp.	Annandale, Rec. Ind. Mus. 9:309, 1913
Hemidactylus sp.	Deraniyagala, Spol. Zeyl. 16:291, 1932
Ichthyophis sp.	Deraniyagala, Spol. Zeyl. 17:231, 1933
Lycodon aulicus aulicus, osmamhilli diff.	deSilva, Spol. Zeyl. 31:431, 1969, after Taylor, U. Kans. Sci. Bull. 33:1, 1950
Lygosoma subgen., sp.	Deraniyagala, Spol. Zeyl. 16:139, 1931
Mabuya sp.	Deraniyagala, Spol. Zeyl. 16:139, 1931
Microhylidae (larvae) gen.	Kirtisinghe, Cey. J. Sci. 1:171, 1958
Naja naja subsp.	Deraniyagala, Spol. Zeyl. 24:104, 1945
Python molurus subsp.	Deraniyagala, Spol. Zeyl. 24:104, 1945
Rana, sp., based on skeletal characters	de Silva, Spol. Zeyl. 28:87, 1956
Rana hexadactyla, cyanophlyctis, limnochavis, temporalis, corrugata diff.	deSilva, Spol. Zeyl. 28:87, 1956
Rana limnocharis, greenii, milagirica, brevipalmata diff.	Boulenger, Spol. Zeyl. 2:73, 1904
Scincidae gen.	Deraniyagala, Spol. Zeyl. 16:139, 1931
gen., sp.	Taylor, U. Kans. Bull. 33:481, 1950
Uropeltidae gen., sp.	Gray, P.Z.S. Lond. 260, 1858; Beddome, An. Mag. N.H. 17:3, 1886
sp.	Boulenger, Cat. Snake B.M., I, 1893; Wall, Colombo, 1921
gen.	Proctor, An. Mag. N.H. 13:139, 1924
Varanus sp.	Smith, J. Bombay N.H.S. 35:615, 1932; Deraniyagala, Zpol. Zeyl. 24:59, 1944
Viperidae sp.	Wall, Colombo, 1921

## CHINA

Amphibia fam. to sp.	Stejneger, U.S.N.M. Bull. 58, 1907; Boring, Chou, Peking, 1932; Liu, Mem. Field. Zool. 2, 1950
Reptilia fam. to sp.	Stejneger, U.S.N.M. Bull. 58, 1907
ord., subord.	Chang, Contr. Biol. Lab. China 8:9, 1932; Boring, Chou, Peking, 1932; Pope, A.M.N.H. 10, 1935
Anura gen., larvae gen., sp.	Pope, Bull. A.M.N.H. 61:397, 1931
subord., fam.	Pope, Boring, Peking N.H. Bull. 15:13, 1940; Liu, China. Sci. Publ. 29, 1966
Caudata sp.	Chang, Contr. Biol. Lab. China 9:305, 1933
subord. to sp.	Chang, Paris, 1936, reprint, S.S.A.R. 1968; Liu, China. Sci. Publ. 29, 1966
Sauria fam. to sp.	Tchang, Bull. Fan Inst. 2:265, 1931
sp.	Chang, Contr. Biol. Lab. China 8:9, 1932
Serpentes sp.	Chang, Contr. Biol. Lab. China 7:249, 1931; Ibid. 8:9, 1932
fam. to sp.	Pope, Am. Mus. Nov. 733, 1934
Testudines fam. to sp.	Pope, Am. Mus. Nov. 733, 1934
Akgistrodon struchi, halys, blomhoffii, intermedius diff.	Stejneger, Proc. U.S.N.M. 66:1, 1927, after Bedroakp, not seen
Batrachuperas pinchonii, Megalobatrachus, Pachytriton brevipes, Triturus orientalis larvae diff.	Chang Bull. M.N.H.N. Paris 7:172, 1935
Bombina sp.	Pope, Boring, Pek. N.H. Bull. 15:13, 1940
Bufo sp.	Pope, Boring, Peking N. H. Bull. 15:13, 1940
' bufo subsp.	Schmidt, Field. M.N.H. 24:151, 1940
Bungarus sp.	Tchang, Bull. Fan Inst. 3:1, 1932; Wall, J. Bombay N.H.S. 18:711, 1908
Chrysopelia sp., subsp.	Mertens, Senck. Biol. 49:191, 1968
Colubridae gen.	Tchang, Bull. Fan Inst. 3:1, 1932

Dendrophis sp.	Meise, Henning, Zool. Anz. 99:273, 1932
Elaphe sp.	Tchang, Bull. Fan Inst. 3:1, 1932
Elapidae gen.	Tchang, Bull. Fan Inst. 3:1, 1932
Eumeces sp., subsp.	VanDenburgh, Proc. Cal. Ac. Sci. 3:187, 1912
Eumeces elegans geographical diff.	VanDenburgh, Proc. Cal. Ac. Sci. 3:187, 1912
Gekko ap., subsp.	Stejneger, Proc. U.S.N.M. 82:1, 1932
Hyla sp.	Pope, Boring, Peking N.H. Bull. 15:13, 1940
Hynobiidae gen., adult & larvae	Dunn, Proc. Am. Acad. Art Sci. 58:445, 1923
gen., sp.	Pope, Boring, Peking N.H. Bull. 15:13, 1940
Hynobius sp.	Dunn, Proc. Am. Acad. Sci. 58:445, 1923
Lacerta sp.	Chang, Contr. Biol. Lab. China 8:9, 1932
Leiopelopisma laterale subsp.	VanDenburgh, Proc. Cal. Ac. Sci. 3:187, 1912
Megalobatrachus, Pachytriton brevipes, Triturus orientalis, Batrachaperus pinchonii larvae diff.	Chang, Bull. M.N.H.N. Paris 7:172, 1935
Megophrys sp.	Pope, Bull. A.M.N.H. 61:397, 1931; Pope, Boring, Peking N.H. Bull. 15:13, 1940
Microhyla sp.	Parker, Am. Mag. N.H. 2:473, 1928
larvae sp.	Pope, Bull. A.M.N.H. 61:397, 1931, after Parker, Am. Mag. N.H. 18:470, 1928
Microhylidae gen., sp.	Pope, Boring, Peking N.H. Bull. 15:13, 1940
Natricidae see Colubrida	
Natrix sp.	Tchang, Bull. Fan Inst. 3:1, 1932
Oeidozyga lima, laevis martensis diff.	Pope, Bull. A.M.N.H. 61:397, 1931
Pachytriton brevipes, Batrachaperas pinchonii, Megalobatrachus, Triturus orientalis larvae diff.	Chang, Bull. M.N.H.N. Paris 7:172, 1935
Pelobatidae gen., sp.	Pope, Boring, Peking N.H. Bull. 15:13, 1940
Pseudoxenodon macrops, sinensis, dorsalis diff.	Stejneger, Proc. U.S.N.M. 66:1, 1927
Rana phrynoidea, tibetana, spinosa, boulenqeri diff.	Liu, Peking N.H. Bull. 10:55, 1935
Ranidae gen. sp.	Pope, Boring, Peking N.H. Bull. 15:13, 1940
Rhacophoridae gen., sp.	Pope, Boring, Peking N.H. Bull. 15:13, 1940
Salamandridae gen., sp.	Chang, Boring, Peking N.H. Bull. 9:327, 1935; Ibid. 15:13, 1940
Spaniopholis souliei, kreyenbergi diff.	Muller, Mainz, Zool. Anz. 31:824, 1907
Tetratoscincus sp.	Bedriaga, Am. Mus. St. Peter. 10:159, 1905
Triturus orientalis, Megalobatrachus, Pachytriton brevipes, Batrachuperus pinchonii larvae diff.	Chang, Bull. M.N.H.N. Paris 7:172, 1935
Tropidophorus sp.	Smith, P.Z.S. Lond. 775, 1923
Tylototriton sp.	Fang, Chang, Sinensis 2:111, 1932
Zaocys dhummades, oshimai, miromarginatus diff.	Stejneger, Proc. U.S.N.M. 66:1, 1927

## CANYON

Amphibia sp., eggs, larvae Wallace, Linqran Sci. J. 15:569, 1936

## CHEKIANG

Caudata sp. Chang, Contr. Biol. Lab. China 9:305, 1933

## FAKIAN

Amphibia fam. Boring, M.B.A.C., 1932  
Reptilia fam. Boring, M.B.A.C., 1932

## HAINAN

Dendrophis sp. Meise, Henning, Zool. Anz. 99:273, 1932  
Microhyla sp. Voigt, Sitz. Freunde Berlin 3:222, 1913

## HONAN

Anura sp. Fu, Bull. Fan Inst. 6:239, 1936

## JEHOL

Amphibia subsp. Okada, Rpt. Sci. Exp., 1935  
Reptilia subsp. Okada, Rpt. Sci. Exp., 1935

## KWANGSI

Reptilia sp. Fan, Bull. Sun Yatsen U. 11:154, 1931

## MANCHURIA (&amp;NORTHERN MANCHURIA)

Anura sp. Okada, Fauna Asip 25:1, 1935  
Serpentes sp. Emelyarov, Vladivostak, 1929  
Hyla sp. Kostin, Am. Jool. Jap. 15:28, 1935

## NANKING

Sauria fam., sp. Sun, Contr. Biol. Lab. China 2:1, 1926  
Serpentes sp. Chang, Fang, Contr. Biol. Lab. China 7:249, 1931

## NORTH CHINA

Amphibia gen., sp., larval eggs Boring, Liu, Chou, Peking, 1932  
Reptilia gen., sp. Boring, Liu, Chou, Feking, 1932

## PEKING

Anura fam., sp., subsp. Shaw, Bull. Fan Inst. 1:77, 1929-30

## SOUTH CHINA

Zaocys dhumnades dhumnades, d. nigromarginatus diff. Bourret, Bull. Gen. Inst. 15, 1935

## SOUTHEASTERN CHINA

Microhyla sp. Gressitt, Phil. J. Sci. 75:1, 1941

## SZECHUAN

Reptilia ord., subord. Chang, Contr. Biol. Lab. China 8:9, 1932

Sauria sp. Chang, Ibid.

Serpentes sp. Chang, Ibid.

## WEST CHINA

Anura tadpoles sp. Liu, J. W. China Soc. 12:7, 1940

## YUNNAN

Tropidophorus sp. Smith, P.Z.S. Lond. 755, 1923

## HIMALAYA MTNS.

Rana liebigii & allied sp. Annandale, Mem. As. Soc. Bengal 6:119, 1917

## HONG KONG

Serpentes (adult color) sp. Harklots, H.K. Nat. 4:113, 1933

cobra sp. (adult color) Ibid. 8:189, 1938

fam. to sp. Romer, Mem. Hong Kong N.H. Soc. 5, 1961; Ibid. 8, 1970

## FORMOSA see TAIWAN

## INDIA

Amphibia gen., sp. Boulenger, London, 1890

Reptilia sp. Gunther, London, 1864

gen., sp. Boulenger, London, 1890

Gymnophiona gen. Taylor, J. Bombay N.H.S. 58:355, 1961

Sauria fam. to sp. Smith, London II, 1935

Serpentes gen. Nicholson, Madras, 1893; Cardew, J. Bombay N.H.S. 10:585, 1897

poisonous, nonpoisonous sp. diff. Wall, J. Bombay N.H.S. 14:93, 1902

Poisonous; cobra, coral sp. -Wall, J. Bombay N.H.S. 17:51, 1906; Ibid. 1907

pit vipers, pitless vipers sp. Wall, J. Bombay N.H.S. 17:299, 1906

fam. Wall, Colombo, 1921; Gharpurey, Bombay, 1935

fam. to sp. Smith, Fauna Brit. Ind. III, 1943

sp. Deoras, New Delhi, 1965

Testudines fam. to sp. Smith, Fauna Brit. Ind. I, 1931

Ansonia sp., subsp. Inger, Field. Zool. 39:473, 1960

Aspilus see Trionyx

Bungarus sp. Wall, J. Bombay N.H.S. 18:711, 1908

Chamaeleonidae gen., sp. Werner, Das Tier 27, 1911

Chamaelcontidae see Chamaeleonidae

Chrysopelia sp., subsp. Mertens, Senck. Biol. 49:191, 1968

Onemaspis sp. Loveridge, P.Z.S. Lond. 817, 1935

Crocodilus see Crocodylus

Crocodylus sp. Ogilby, Proc. Roy. Soc. Qnsl. 19:1, 1905

Crocodylus johnstonii, prorsus, mindorensis, rovaequina diff. Schmidt, Field. Zool. 33:535, 1956

Cyclemys sp. Siebenrock, Sitz. Ak. Wien 112:333, 1903

Dendrophid sp. Meise, Henning, Zool. Anz. 99:273, 1932

Dravidogecko of India and Hoplodactylus of New Zealand diff. Smith, Rec. Ind. Mus. 35:9, 1933

Engystomatidae larvae sp. Rao-Naraya, Rec. Ind. Mus. 15:41, 1918

Eublepharis sp. Maki, An. Zool. Jap. 13:9, 1930

Geoemyda sp. Annandale, Rec. Ind. Mus. 9:63, 1913

Geoemyda trijuga subsp. Annandale, Rec. Ind. Mus. 11:189, 1915

Gymnodactylus sp. Annandale, Rec. Ind. Mus. 9:309, 1913

Ichthyophis sp. Taylor, J. Bomban N.H.S. 58:355, 1961

Ophiomorus sp. Anderson, Leviton, Proc. Cal. Ac. Sci. 33:499, 1966

Microhyla sp. Parker, An. Mag. N.H. 2:473, 1928

Naja naja subsp. Deraniyagala, Spol. Zeyl. 24:104, 1945

Nilssonia see Trionyx

Peltastes sp. Gray, P.Z.S. Lond. 653, 1870

Python molurus subsp. Deraniyagala, Spol. Zeyl. 24:104, 1945

Rafetus see Trionyx

Rana limnocharis, greenii, milagirica, brevipalmata diff. Boulenger, Spol. Zeyl. 2:73, 1904

Silybura see Uropeltis

Testudo sp. Annandale, Rec. Ind. Mus. 9:63, 1913

Trionyx sp. Annandale, Rec. Ind. Mus. 7:151, 1912

Trionyx gangeticus, paquensis, hurum diff. Gray, Am. Mag. N.H. 10:326, 1872

Trionyx synons., Rafetus, Aspilus, Nilssonia diff. Gray, Am. Mag. N.H. 10:326, 1872

Trionyx gataghoh, javanicus diff. Gray, Am. Mag. N.H. 10:326, 1872

Uraeotyphlus sp. diff. from West African Geotrypetes sp. Parker, An. Mag. N.H. 20:478, 1927

Uropeltidae gen., sp. Gray, P.Z.S. Lond. 26:260, 1858; Beddome, An. Mag. N.H. 17:3, 1886;

gen. Boulenger, Cat. Snakes I, 1893

Proctor, An. Mag. N.H. 13:139, 1924

Uropeltis sp.	Gunther, P.Z.S. Lond. 224, 1875	Beddome, P.Z.S. Lond. 800, 1878
Uropeltis broughami, legingii, ochracea, dupeni, guentheri, madurensis diff.	Smith, J. Bombay N.H.S. 35:615, 1932	
Varanus sp.		
Bungarus sp.		BENGAL
Dendrelaphis sp.	Shaw, Shebbeare, Barker, J. Bengal N.H.S. 16:113, 1942	
Dendrophis sp.	Shaw et al., J. Bengal N.H.S. 14:106, 1940	
Oligodon sp.	Shaw et al., J. Bengal N.H.S. 14:106, 1940	
Trimeresurus sp.	Shaw et al., J. Bengal N.H.S. 14:137, 1940	
	Shaw et al., J. Bengal N.H.S. 22:17, 1947	
Amphibia fam., sp.		MADRAS
Microhylidae gen., sp.	Murthy, J. Univ. Poona 34:63, 1968	
Rana sp.	Murthy, J. Univ. Poona 34:63, 1968	
	Murthy, J. Univ. Poona 34:63, 1968	
Serpentes fam., sp.	Wall, J. Bombay N.H.S. 22:552, 1919	NILGIRI HILLS (MADRAS)
Nectophryne sp.	Roux, P.Z.S. Lond. 58, 1906	MALABAR
Anura larvae fam.		PLAINS REGION OF INDIA
Batonidae sp.	Annandale, Rao, Rec. Ind. Mus. 15:25, 1918	
Ranidae sp.	Annandale, Rao, Rec. Ind. Mus. 15:25, 1918	
Amphibia fam. to sp.	Annandale, Rao, Rec. Ind. Mus. 15:25, 1918	
Anura fam., gen.		RAJASTHAN
Bufo sp.	Mansukhani, Murthy, Rec. Zool. Surv. Ind. 65:51, 1964, 1970	
Rana sp.	Mansukhani, Murthy, Rec. Zool. Surv. India 62:51, 1964	
	Mansukhani, Murthy, Rec. Zool. Surv. India 62:51, 1964	
	Mansukhani, Murthy, Rec. Zool. Surv. India 62:51, 1964	
Plectrurus sp.	Beddone, P.Z.S. Lond. 225, 1883	SOUTHERN INDIA
Amphibia fam.		WESTERN INDIA
Bufo sp.	Daniel, J. Bombay N.H.S. 60:415, 1963	
Buonidae gen.	Daniel, J. Bombay N.H.S. 60:415, 1963	
Microhyla sp.	Daniel, J. Bombay N.H.S. 60:415, 1963	
Microhylidae gen.	Daniel, J. Bombay N.H.S. 60:690, 1963	
Ramanella sp.	Daniel, J. Bombay N.H.S. 60:690, 1963	
Uperodon sp.	Daniel, J. Bombay N.H.S. 60:690, 1963	
Uraeotyphlus sp.	Daniel, J. Bombay N.H.S. 60:415, 1963	
JAPAN (ADJACENT ISLANDS - JAPANESE EMPIRE)		
Amphibia fam. to sp., larvae sp.	Stejneger, U.S.N.M. Bull. 58, 1907	
ord., sp., subsp.	Loveridge, N.Y., 1945	
common names of sp. in Japan	Nakamura, Ueno, Osaka, 1963	
Reptilia fam. to sp.	Stejneger, U.S.N.M. Bull. 58, 1907	
ord., sp., subsp.	Loveridge, N.Y., 1945	
common names of sp. in Japan	Nakamura, Ueno, Osaka, 1963	
Anura sp.	Okada, Imp. Agr. Ex. Sta. 1931; Okada, Fauna Nip. 25:1, 1935; Okada, Fauna Jap., Tokyo, 1966	
Gaudata sp.	Sato, Fauna Nip. 15:1, 1937	
gen.	Sato, Tokyo, 1943	
Serpentes sp.	Maki, Tokyo, 1931	
poisonous, fam. to sp.	Oshima, Tokyo, 1943	
Achalinus sp.	Hamiye, An. Zool. Jap. 2:29, 1898	
Cynops pyrrhogaster, ensicauda	diff. Sato, Tokyo, 1943	
Eumeces sp., subsp.	VanDenburgh, Proc. Cal. Ac. Sci. 3:187, 1912	
Hynobiidae gen., larvae gen.	Dunn, Proc. Am. Ac. Art. Sci. 58:445, 1923	
Hynobius sp.	Dunn, Proc. A., Ac. Art Sci. 58:445, 1923	
gen., sp.	Sato, Tokyo, 1943, in Jap.	
Japalura polygonata subsp.	VanDenburgh, Proc. Cal. Ac. Sci. 3:187, 1912	
Leiolopisma laterale subsp.	VanDenburgh, Proc. Cal. Ac. Sci. 3:187, 1912	
Rana sp.	Boulenger, Rec. Ind. Mus. 20:1, 1920	
Rana (wood frogs) sp.	Stejneger, Proc. Biol. Soc. Wash. 37:73, 1924	
Takydromus smaragdinus geogr. diff.	VanDenburgh, Proc. Cal. Ac. Sci. 3:187, 1912	
Triturus see Cynops		
Trimeresurus sp.	Koba, Jap. Soc. Prom. Sci. 1962	AMANI ISLANDS

TOKARA ISLANDS  
Koba, Jap. Soc. Prom. Sci. 1962

*Trimeresurus* sp.

KOREA

Amphibia fam. to sp.	Stejneger, U.S.N.M. Bull. 58, 1907
sp.	Shannon, Herpetolog. 12:22, 1956
Reptilia fam. to sp.	Stejneger, U.S.N.M. Bull. 58, 1907
sp.	Shannon, Herpetolog. 12:22, 1956
Anura sp.	Okada, Imp. Agr. Exp. Sta., Tokyo, 1931
Serpentes	Maki, Tokyo, 1931 - in Jap.
Hynobius sp.	Dunn, Proc. Am. Ac. 58:445, 1923

MALAYA, PENINSULA, ADJOINING ISLANDS

Amphibia fam. to sp.	Boulenger, London, 1912
gen., sp.	Smith, Bull. Raffl. Mus. 3, 1930
Reptilia fam. to sp.	Boulenger, London, 1912
gen., sp.	Smith, Bull. Raffl. Mus. 3, 1930
Sauria fam. to sp.	Smith, Fauna Brit. Ind., III, 1935
fam.	Harrison, Boo L, Malay Nat. J. 12:1, 1957
Serpentes fam. to sp.	Smith, Fauna Brit. Ind., III, 1943
sp.	Tweedie, Singapore, 1957
Testudines fam. to sp.	Smith, Fauna Brit. Ind., I, 1931
Ansonia sp., subsp.	Inger, Field Zool. 39:473, 1960
Boiga dendrophila subsp.	Brongersma, Zool. Med. 17:161, 1934
Chrysopela sp., subsp.	Mertens, Senck. Biol. 49:191, 1968
Crocodylus see Crocodylus	
Crocodylus	Ogilby, Proc. Roy. Soc. Qnsl. 19:1, 1905
Engystomatidae larvae sp.	Rao-Naraya, Rec. Ind. Mus. 15:41, 1918
Gonatodes rendallii, affinis, nigridius, siamensis diff.	Smith, Sarawak Mus. J. 3:15, 1925
Macrolalamus sp.	Liat, Bull. Nat. Mus. Singap. 32, 1963
Maticora sp., subsp.	Loveridge, Proc. Biol. Soc. Wash. 57:105, 1944
Pseudorabdion sp.	Leviton, Brown, Proc. Cal. Ac. Sci. 29:475, 1959
Sphenomorphus sp.	Bacon, Field. Zool. 51:63, 1967
Staurois sp.	Boulenger, An. Mag. N.H. 1:372, 1918
Testudo sp.	Annandale, Rec. Ind. Mus. 9:63, 1913
Tropidonotus conspicillatus, sarawakensis diff.	Kloss, J. Fed. Mal. St. Mus. 6:41, 1915

PAHANG (S. W.)

Tasek Bera

Anura sp.

Heong, Malay Nat. J. 25:130, 1972

NAPAL  
Darjeeling

Rana sp.

Boulenger, An. Mag. N.H. 2:506, 1888

PAKISTAN

Amphibia sp.	Minton, Am. Mus. Nov. 2081, 1962; Minton, Bull. A.M.N.H. 134:29, 1966
Reptilia sp.	Minton, Am. Mus. Nov. 2081, 1962; Minton, Bull. A.M.N.H. 134:29, 1966
Sauria sp. (Jhanghi District)	Kahn, Herpetolog. 28:94, 1972
Serpentes fam.	Gharpurey, Bombay, 1935
Eublepharis sp.	Maki, An. Zool. Jap. 13:9, 1930
Gymnodactylus sp.	Hora, Rec. Ind. Mus. 35:369, 1923
Ophiomorus sp.	Anderson, Leviton, Proc. Cal. Ac. Sci. 33:499, 1966
Testudo sp.	Annandale, Rec. Ind. Mus. 9:63, 1913
Tropidonotus sp.	Boulenger, P.Z.S. Lond. 299, 1919
Zamenis sp.	Boulenger, P.Z.S. Lond. 299, 1919

RIUKIU ISLANDS

Amphibia sp.	Inger, Field. Zool. 32:297, 1947
Anura sp.	Okada, Imp. Agr. Ex. Sta. 215, 1931
Serpentes poisonous fam. to sp.	Oshima, An. Re. Inst. Sci. Formosa 8:1, 1920
Eublepharis sp.	Maki, An. Zool. Jap. 13:9, 1930
Microhyla sp.	Vogt, Sitz. Freunde Berl. 3:222, 1913; Parker, An. Mag. N.H. 2:473, 1928

CAKHALIN

Anura sp.  
Serpentes

Okada, Imp. Agr. Ex. Sta. 1931; Okada, Fauna Nip. 25:1, 1935  
Maki, Tokyo, 1931

SIBERIA

Amphibia subord. to subsp., larvae, adult Nikolskir, 1919, transl. Israel, 1962; Terentjev, Chernov, 1949,  
transl. Israel, 1965  
Reptilia subord. to sp. Terentjev, Chernov, Moscow, 1949, transl. Israel, 1965  
Anura larvae, eggs Terentjev, Chernov, Moscow, 1949, transl. Israel, 1965  
Serpentes sp. Strauch, Mem. Ac. St. Petersb. 21:1, 1873; Emelyanov, Vladivostok, 1929  
Aqkistrodon sp. Emelianov, Bull. Far. E. Br. Ac. USSR 24:19, 1937  
Ancistrodon see Aqkistrodon  
Lacerta subgen., sp. Bedriaga, Senck. Nat. Ges. 14:17, 1886  
Trigonoccephalus see Aqkistrodon

SIKKIM

Dendrelaphis sp. Shaw, Shehbeare, Barker, J. Bengal N.H.S. 14:106, 1940  
Dendrophis sp. Shaw et al., J. Bengal N.H.S. 14:106, 1940  
Oligodon sp. Shaw et al., J. Bengal N.H.S. 14:137, 1940  
Trimeresurus sp. Shaw et al., J. Bengal N.H.S. 22:17, 1947

SINGAPORE

Nectophryne sp. Roax, F.Z.S. Lond. 58, 1906

SOUTHEAST ASIA (INDOCHINA)

Amphibia sp. larvae Bourret, Inst. Oc. Indochin., 1942  
Sauria fam. to sp. Smith, Fauna Brit. Ind., II, 1935  
sp. Bourret, Publ. Instr., 1943  
Serpentes sp. Bourret, Toulouse, 1936  
fam. to sp. Smith, Fauna Brit. Ind., III, 1943  
Testudines sp. Smith, Fauna Brit. Ind., I, 1931; Bourret, Poulain, Inst. Oc. Indochin., 1941;  
Bourret, Publ. Instr. Pub. Indochin., 1941  
Achalinus sp. Bourret, Bull. Gen. Instr., 1935  
Bungarus Wall, J. Bomby N.H.S. 18:71, 1906  
Chrysopela sp., subsp. Mertens, Senck. Biol. 49:191, 1968  
Cnemaspis sp. Loveridge, P.Z.S. Lond., 817, 1935  
Cyclemys sp. Siebenrock, Citz. Ak. Wier 112:333, 1903  
Hydrophidae gen., sp. Bourret, Inst. Oc. Indochin., 1935  
Liopeltis major major, m. multicinctus diff. Bourret, Bull. Gen. Instr., 1934  
Megaphrys longipes subsp. Bourret, Bull. Gen. Instr., 1937  
Microhyla sp. Parker, Ar. Mag. N.H. 2:473, 1928  
Oligodon mouhoti, taeniatus diff. Campden-Main, Herpetolog. 25:295, 1969  
Sphenomorphus sp. Bacor, Field. Zool. 51:63, 1967  
Tropidophorus sp. Smith, F.Z.S. Lond. 775, 1923  
Xenopeltidae sp. Boulenger, Cat. Snake, I, 1893  
Zaocys dhummades dhummades, d. nigromarginatus diff. Bourret, Bull. Gen. Instr., 1935

LAOS

Serpentes fam. to subsp. Deuve, Mem. ORSTOM 39:251, 1970

VIET NAM

Serpentes sp. , Campden-Main, U.C.N.M. Div. R & A, 1970

SOUTHWEST ASIA, SOUTHEAST USSR, CENTRAL ASIA

Eryx sp. Isarewsky, An. Mus. Zool. Ac. Imp. Sci. Petrogr. 20:340, 1915  
Eryx miliaris subsp. Isarewsky, An. Mus. Petrogr. 20:340, 1915  
Eryx tataricus subsp. Isarewsky, An. Mus. Petrogr. 20:340, 1915  
Lytorhynchus sp. Leviton, Anderson, Proc. Cal. Ac. Sci. 37:249, 1970  
Tropiocolotes sp., subsp. Minton, Anderson, Anderson, Proc. Cal. Ac. Sci. 37:333, 1970  
Xeropeltidae sp. Boulenger, Cat. Snake, I, 1893  
Cameris sp. P.Z.S. Lond. 628, 1891

SOVIET CENTRAL ASIA (KAZAKH AND KIRGHIZ REPUBLICS)  
See also EUROPE USSR

Vipera macrops, renardi diff. Mehely, An. Mus. Nat. Hung. 9:186, 1911

TAIWAN

Amphibia fam. to sp., larvae sp.	Stejneger, U.S.N.M. Bull. 58, 1907
fam. to subsp.	Loveridge, N.Y., 1944
Reptilia fam. to sp.	Stejneger, U.S.N.M. Bull. 58, 1907
fam. to subsp.	Loveridge, N.Y., 1944
sp.	Wang, Wang, Quart. J. Taiwan Mus. 9:1, 1956
Anura sp.	Okada, Imp. Ag. Ex. Sta., 1931; Okada, Fauna Nip. 25:1, 1935
Serpentes fam. to sp. (poisonous)	Oshima, An. Rep. Inst. Formosa 8:1, 1920; Maki, Tokyo, 1931
Testudines gen., sp.	Nakamura, Trans. N.H.S. Formosa 24:32, 1934; Mao, Taipei, 1971
Eumeces elegans diff.	VanDenburgh, Proc. Cal. Ac. Sci. 3:187, 1912
Hynobius sp.	Pope, Boring, Peking N.H. Bull. 15:13, 1940
Japalura polygonata subsp.	VanDenburgh, Proc. Cal. Ac. Sci. 3:187, 1912
Leiolopisma laterale subsp.	VanDenburgh, Proc. Cal. Ac. Sci. 3:187, 1912
Microhyla sp.	Vogt, Sitz. Freunde Berl. 3:222, 1913; Parker, An. Mag. N.H. 2:473, 1928
Rana sp.	Werner, Mitt. N. M. Hamb. 30:1, 1913; Boulenger, Rec. Ind. Mus. 20:1, 1920

THAILAND

Amphibia sp., larvae	Bourret, Inst. Oc. Indochin., 1942
gen. to subsp.	Taylor, U. Kans. Sci. Bull. 43:265, 1962
Gymnodactylus gen., sp.	Taylor, N.H. Bull. Siam Soc. 24:33, 1971
Lacertilia fam. to sp.	Smith, Fauna Brit. Ind., II, 1935
Serpentes (poisonous) sp.	Smith, J.N.H. Soc. Siam 6:55, 1923
fam. to sp.	Smith, Fauna Brit. Ind., III, 1943
Testudines fam. to sp.	Smith, Fauna Brit. Ind., I, 1931
Gymnophiona gen., sp.	Taylor, N.H. Bull. Siam Soc. 24:33, 1971
Bungarus sp.	Soderberg, N.H. Bull. Siam Soc. 24:203, 1973
Calliophis sp.	Soderberg, N.H. Bull. Siam Soc. 24:203, 1973
Calotes sp.	Taylor, U. Kans. Sci. Bull. 38:1033, 1958
Caretta caretta subsp.	Taylor, U. Kans. Sci. Bull. 49:87, 1970
Cheloniidae sp.	Taylor, U. Kans. Sci. Bull. 49:87, 1970
Crocodylidae sp.	Taylor, U. Kans. Sci. Bull. 49:87, 1970
Draco sp.	Taylor, U. Kans. Sci. Bull. 38:1033, 1958
Elapidae gen.	Soderberg, N.H. Bull. Siam Soc. 24:203, 1973
Eretmochelys imbricata subsp.	Taylor, U. Kans. Sci. Bull. 49:87, 1970
Geomysa sp.	Taylor, U. Kans. Sci. Bull. 49:87, 1970
Gonatodes siamensis, rendallii (of Borneo & Malaya, nigridius (of Borneo), affinis (of Borneo & Malaya diff.	Smith, Sarawak Mus. J. 3:15, 1925
Heosemys see Geomyda	
Mabuya macularia subsp.	Taylor, U. Kans. Sci. Bull. 38:1033, 1958
Maticora sp.	Soderberg, N.H. Bull. Siam Soc. 24:203, 1973
Oligodon mouhoti, taeniatus diff.	Campden-Main, Herpetolog. 25:295, 1969
Pseudorabdion sp.	Leviton, Brown, Proc. Cal. Ac. Sci. 29:475, 1959
Ranidae (doriae group) sp.	Smith, J.N.H.S. Siam 4:215, 1922
Scincidae (limbless) sp.	Heyer, Field. Zool. 58:109, 1972
Testudo sp.	Taylor, U. Kans. Sci. Bull. 49:87, 1970
Trimeresurus sp.	Taylor, U. Kans. Sci. Bull. 38:1033, 1958
Tropidophorus sp.	Smith, P.Z.S. Lond. 775, 1923

WESTERN ASIA

Glauconia see Leptotyphlops	
Leptotyphlops sp.	Werner, Mitt. Zool. Mus. Hamb. 34:191, 1916 (1917)
Testudo sp.	Annandale, Rec. Ind. Mus. 9:63, 1913





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Division of Reptiles & Amphibians  
National Museum of Natural History  
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ASIA MINOR

*Amphisbaenia* sp. Gray, P.Z.S. Lond. 442, 1865  
*Aeluroglena*, *Coluber*, *Coronella*, *Meizodon* Bogert, Bull. A.M.N.H. 77:1, 1940  
*Agama cyanogaster* subsp. *Klausewitz*, Senck. Biol. 35:137, 1954  
*stellii* subsp. *Daan*, Beaufort 14:109, 1967  
*Apathya*, *Lacerta* diff. *Mehely*, An. Mus. Hung. 7:407, 1909  
*Atractaspis* sp. *Boulenger*, An. Mus. Congo 2:7, 1901  
 gen., sp. *Laurent*, Mem. Inst. Roy. Belg. 38, 1950  
*Bitis* sp. *Boulenger*, P.Z.S. Lond. 267, 1919  
*Blanus* subsp. *Alexander*, Copeia 205, 1966  
*Boodon* sp. *Boulenger*, P.Z.S. Lond. 267, 1919  
*Bufor* sp. *Boulenger*, P.Z.S. Lond. 545, 1880  
*Bunopus* sp. *Anderson*, Herpetolog. 29:355, 1973  
*Chalcides occelatus* subsp. *Mertens*, Senckenberg. 3:116, 1921  
*Chamaeleo* sp. *Werner*, Zool. Jb. 15:295, 1902  
*Chamaeleonida* gen., sp. Gray, P.Z.S. Lond. 465, 1864; *Werner*, 27 Lf. Berlin, 1911  
*Coelopeltis* sp. *Boulenger*, P.Z.S. Lond. 267, 1919; *Ibid.* 299, 1919  
*Coluber*, *Coronella*, *Meizodon*, *Aeluroglena* diff. *Bogert*, Bull. A.M.N.H. 77, 1940  
*Dasypeltis* sp. *Boulenger*, P.Z.S. Lond. 299, 1919  
*Echis* sp. *Boulenger*, P.Z.S. Lond. 267, 1919  
*Eryx* sp. *Tsarewsky*, An. Mus. Zool. Petrogr. 20:340, 1915  
*Eumeces* sp. *Taylor*, Bull. U. Kans. 33:1, 1935  
 schneiderii subsp. *Mertens*, Senckenberg. 27:53, 1946  
*Glaucoria* see *Leptotyphlops*  
*Lacerta* subgen., sp.  
 sp. *Bedriaga*, Abh. Senck. 14:17, 1886  
*graeca*, *danfordi* allies sp. *Werner*, Sitz. Ak. Wien 111:1, 1902; *Mehely*, An. Mus. Hung. 7:407, 1909  
*muralis* allies sp. *Werner*, Zool. Anz. 27:254, 1904  
 subgen. to subsp. *Boulenger*, Trans. Zool. Soc. Lond. 21:1, 1916  
*Apathya* diff. *Peters*, Mitt. Zool. Mus. Berl. 38:127, 1962  
*saxicola* subsp. *Mehely*, An. Mus. Hung. 7:407, 1909  
*viridis* subsp. *Meheley*, An. Mus. Hung. 7:407, 1909  
 subsp. *Werner*, Sitz. Ak. Wien 111:1, 1902  
*Ibid.*, 1057, 1902  
*Lacertidae* sp. *Werner*, Sitz. Ak. Wien 111:1057  
*Leptotyphlops* sp. *Boulenger*, P.Z.S. Lond. 299, 1919; *Leviton*, *Anderson*, Proc. Cal. Ac. Sci. 37:249, 1970  
*Macropotodon* sp. *Boulenger*, P.Z.S. Lond. 267, 1919  
*Meizodon*, *Coronella*, *Coluber*, *Aeluroglena* diff. *Bogert*, Bull. A.M.N.H. 77:1, 1940  
*Naja* sp. *Boulenger*, P.Z.S. Lond. 267, 1919  
*Hatricinae* gen. *Malnate*, Proc. Ac. N.S. Phila. 112:41, 1960  
*Oligodon* sp. *Boulenger*, P.Z.S. Lond. 299, 1919  
*Sphiomorus* sp. *Anderson*, *Leviton*, Proc. Cal. Ac. Sci. 33:449:1966  
*Ophiops elegans* subsp. *Boulenger*, An. Mag. N.H. 2:158, 1918  
*Peltastes* sp. *Gray*, P.Z.S. Lond. 653, 1870  
*Pristurus* sp. *Boulenger*, Am. Mus. Genoa 36:545, 1896; *Laurant*, Bull. Mus. Roy. N.H. Belg. 23:1, 1947  
*Psammophis* sp. *Boulenger*, P.Z.S. Lond. 267, 1919  
*Ptyodactylus* sp. *Anderson*, London, 1898  
*Rhynchocaiamus* sp. *Reed*, Marx, Trans. Kans. Ac. Sci. 62:91, 1959  
*Spalerosophis* sp. *Marx*, Field. Zool. 39:347, 1959  
*Tarbophis* sp. *Boulenger*, P.Z.S. Lond. 299, 1919  
*Testudo* sp. *Siebenrock*, An. Nat. Hof. 27:171, 1913  
*Trogonophinae* sp. *Gans*, Bull. A.M.N.H. 119:129, 1960  
*Tropidonotus* sp. *Boulenger*, P.Z.S. Lond. 299, 1919  
*Tropicolotes* sp. *Guibe*, Bull. M.N.H.N. Paris 38:337, 1966  
 sp. subsp. *Minton*, *Anderson*, Proc. Cal. Ac. Sci. 37:333, 1970; *Leviton*, *Anderson*, Occ. Pap. Cal. Ac. Sci. 96, 1972  
*Varanus* sp. *Smith*, J. Bombay N.H.S. 35:615, 1932  
 subgen. to subsp. *Mertens*, Abh. Senck. 466:235, 1942  
*Vipera libertina* subsp. *Werner*, Sitz. Ak. Wien 144:82, 1935  
*Viperidae* sp., subsp. *Schwartz*, Marburg, 1936  
*Zamens* sp. *Boulenger*, P.Z.S. Lond. 299, 1919

AFGHANISTAN

*Amphibia*  
*Reptilia*  
*Eryx* sp.  
*Leviton*, *Anderson*, Proc. Cal. Ac. Sci. 38:163, 1970  
*Leviton*, *Anderson*, Proc. Cal. Ac. Sci. 38:163, 1970  
*Leviton*, *Anderson*, Wasman J. Biol. 19:269, 1961, after Terentjev, Checknov, Moscow, 1949

ARABIA

*Chamaeleo chamaeleon orientalis*, c. *musae* diff. *Parker*, An. Mag. N.H. 481, 1938

*Philochoerus* sp.  
*Scincus* sp.

Boulenger, P.Z.S. Lond. 145, 1917  
Haas, An. Carnegie Mus. 36:19, 1961

BALUCHISTAN

*Testudo* sp.

Annandale, Rec. Ind. Mus. 9:63, 1913

IRAN

*Amphisbaenia* sp.  
*Sauria* sp.  
*Testudines* sp.

Anderson, Field. Zool. 65:27, 1974  
Anderson, Field. Zool. 65:27, 1974  
Anderson, Field. Zool. 65:27, 1974

IRAQ

*Sauria* fam. to sp.  
*Serpentes* gen., sp.  
*Rhynchocalamus* sp.

Khalaf, Bagdad, 1959  
Khalaf, Bagdad, 1959  
Reed, Marx, Trans. Kans. Ac. Sci. 62:91, 1959

ISRAEL

*Reptilia* sp.  
*Crocodylus niloticus* subsp.

Barash, Hoofier, Israel, 1961  
Deraniyagala, Spol. Zeyl. 25:1, 1948

JORDAN

*Crocodylus niloticus* subsp.

Deraniyagala, Spol. Zeyl. 25:1, 1948

SINAI See AFRICA: Egypt

SYRIA

*Crocodylus niloticus* subsp.

Deraniyagala, Spol. Zeyl. 25:1, 1948

ATLANTIC OCEAN and ISLANDS

*Testudines* (marine) sp.  
*Caretta* subsp.  
*Carettidae*  
*Chamaeleon* sp.  
*Lacerta* subgen., sp.  
*Lacerta* (allied to *L. muralis*) sp.

Bronchersma, Leiden, 1972  
Deraniyagala, Spol. Zeyl. 24:95, 1945  
Deraniyagala, Spol. Zeyl. 19:241, 1936  
Werner, Jool. Jb. 15:295, 1902  
Bedriaga, Abh. Senck 14:17, 1886  
Boulenger, Trans. Zool. Soc. Lond. 21:1, 1916

CANARY ISLANDS and EASTERN ATLANTIC ISLANDS

*Chamaeleontidae* gen., sp.  
*Gekkonidae* subsp.

Werner, 27 Lf., Berlin, 1911  
Loveridge, Bull. M.C.Z. 98:1, 1947

AUSTRALIA

*Anura* sp.  
*Sauria* sp.  
*Serpentes* fam., subfam.  
*Testudines* (marine) gen., sp.  
*Aipysurus* (group) gen.  
*Alligatoridae* gen., sp.  
*Amphibolurus caudicinctus* subsp.  
*Aprasia* sp.  
    sp., subsp.  
*Aprasia*, *Cophioseps* diff.  
*Aspidites melanocephalus ramseyi*, m. *melanocephalus* diff.  
*Aspidomorphus* sp.  
*Eidae* gen., sp.  
*Chelidae* gen., sp.  
    gen.  
    sp.

Gray, An. Mag. N.H. 7:86, 1841  
Gray, An. Mag. N.H. 7:86, 1841  
Glauert, J. Roy. Soc. W. Aust. 14:61, 1928  
Cogger, Lindner, Aust. Zool. 15:150, 1969  
McDonald, Cogger, J. Z. Lond. 151:497, 1967  
Gray, Trans. Zool. Soc. Lond. 6:125, 1869  
Storr, I. Roy. Soc. W. Aust. 50:49, 1967  
Kinghorn, Rec. Aust. Mus. 14:126, 1923  
Parker, Bull. Brit. Mus. 3:365, 1956  
Kinghorn, Rec. Aust. Mus. 14:126, 1923  
Kinghorn, Sydney, 1964; McDowell, Cogger, J. Zool. 151:497, 1967  
Glauert, J. Roy. Soc. W. Aust. 14:61, 1928  
Gray, P.Z.S. Lond. 128, 1864; Glauert, J. Roy. Soc. W. Aust. 14:61, 1928  
Boulenger, An. Mag. N.H. 1:346, 1888; Siebenrock, Sitz. Ak. Wien 116:1205, 1907  
Goode, Melbourne, 1967

*Chelodina* sp. Fry, Proc. Roy. Soc. Qnsl. 27:60, 1915; Siebenrock, Sitz. Ak. Wien 124:13, 1915  
*Cheloniidae* gen., sp. Glauert, J. Roy. Soc. W. Aust. 14:61, 1928  
*Chelydidae* See *Chelidae*  
*Chelyidae* See *Chelidae*  
*Chelymys* sp. Gray, P.Z.S. Lond. 504, 1872  
*Chelymys, Euchelymys, Elseya* diff. Gray, P.Z.S. Lond. 504, 1872  
*Cophixalus* sp. Zweifel, Am. Mus. Nov. 2390, 1969  
*Crocodilidae* See *Crocodylidae*  
*Crocodilus* See *Crocodylus*  
*Crocodylidae* gen., sp. Gray, Trans. Zool. Soc. Lond. 6:125, 1869  
*Crocodylus johnstonii* diff. from *porosus*, *mindorensis*, *novaeguinea* Schmidt, Field. Zool. 33:535, 1956  
*Crocodylus vulgaris, madagascariensis* diff. from *Philas johnstonii* Gray, P.Z.S. Lond. 177, 1874  
*Cryptodelma*, *Delma Pygopus* diff. Kinghorn, Rec. Aust. Mus. 15:40, 1926  
*Cyclodus* See *Tiliqua*  
*Cyclorana* sp. Loveridge, Proc. Biol. Soc. Wash. 63:131, 1950  
*Cyclorana slevini, australis* diff. Loveridge, Proc. Biol. Soc. Wash. 63:131, 1950  
*Delma* sp. Kinghorn, Rec. Aust. Mus. 15:40, 1926  
*Delma, Cryptodelma, Pygopus* diff. Kinghorn, Rec. Aust. Mus. 15:40, 1926  
*Demansia* sp. Kinghorn, Sydney, 1964  
 gen. McDowell, Cogger, J. Zool. 151:497, 1967  
*Demansia textilis* subsp. Loveridge, Bull. M.C.Z. 77:241, 1934  
*Dendrophis* sp. Meise, Henning, Zool. Anz. 99:273, 1932  
*Denisonia* sp. MacKay, Proc. Roy. Soc. N.S.W. 29, 1956; Kinghorn, Sydney, 1964  
*Denisonia fasciata, maculata* diff. Loveridge, Bull. M.C.Z. 77:241, 1934  
*Diplodactylus* sp. Werner, Jena. 2:451, 1910; Kluge, Aust. J. Zool. 15:1007, 1967  
*Egernia* sp. Werner, Jena. 2:451, 1910  
 sp., subsp. Mitchell, Rec. S. Aust. Mus. 9:275, 1950  
*Egernia, Tiliqua* diff. Mitchell, Rec. S. Aust. Mus. 9:275, 1950  
*Elapidae* sp. Glauert, J. Roy. Soc. W. Aust. 14:61, 1928  
*Elapidae, Pygopodidae, Typhlopidae* diff. Rawlinson, Vict. Nat. 81:245, 1965  
*Elseya* sp. Gray, P.Z.S. Lond. 504, 1872  
*Elseya, Euchelymys, Chelymys* diff. Gray, P.Z.S. Lond. 504, 1872  
*Glauertia* sp. Stephenson, P.Z.S. Lond. 144, 1965, after Parker, Nov. Zool. 42:1, 1940  
*Grammatophora muricata diemensis, m. adelaideensis* diff. Gray, Ann. Mag. N. H. 7:86, 1841  
*Hemiergis decresiensis* subsp. Copland, Proc. Linn. Soc. N.S.W. 70:62, 1945 (1946)  
*Hyla* sp. McCann, Tuatara 8:107, 1961  
 sp., subsp. Keferstein, Arch. Nat. 34:253, 1868  
*Hyla aurea* subsp. Loveridge, Proc. Biol. Soc. Wash. 63:131, 1950  
 bicolor, *glauerti*, *dorsalis* *microbelas*, *Iaudactylus acutirostris* diff. Straughn, Proc. Roy. Soc. Queensl. 80:43, 1969  
 .*calliscelis*, *krefftii* diff. Loveridge, Pap. Proc. Roy. Soc. Tasman 56, 1934  
*ewigi* subsp. Fry, Proc. Roy. Soc. Qnsl. 27:60, 1915  
*luteiventris*, *chloris*, *typica* diff. Ogelby, Proc. Roy. Soc. Qnsl. 20:31, 1907  
*Hyella* sp. Werner, Verh. Zool. Bot. Wien 51:93, 1901  
*Hylidae* sp. Copland, Proc. Linn. Soc. N.S.W. 82:9  
*Hylodes martinicensis* and *Rana opisthoton* diff from *Pseudophryne australis* and *bibroni* Fletcher, Proc. Linn. Soc. N.S.W. 4:357, 1889 (1890)  
*Hydrophiidae* gen. Kinghorn, Sydney, 1964  
*Lechriodus* sp. Zweifel, Am. Mus. Nov. 2507, 1972  
 fletcheri fletcheri, f. *papuanus* diff. Loveridge, Breviora 55, 1956  
*Leioliopisma* (four fingered sp.) sp., subsp. Mitchell, Rec. S. Aust. Mus. 11:75, 1953  
*Leptodactylidae* gen. Lynch, U. Kan. M.N.H. Misc. Pub. 53, 1971  
 larvae gen. Watson, Martin, Trans. Roy. Soc. Aust. 97:33, 1973  
 gen., sp. Parker, Nov. Zool. 42:1, 1940  
*Lerista* sp. Storr, J. Roy. Soc. W. Aust. 54:59, 1971  
*Lialis* sp. Kinghorn, Rec. Aust. Mus. 14:184, 1924; 15:40, 1926  
*Liasis* sp. Kinghorn, Sydney, 1964  
*Limnodynastes, Philoria* diff. Moore, Am. Mus. Nov. 1919, 1958, after Parker, Nov. Zool. 42:1, 1940  
*Lygosoma* (grouped by sp.) sections Smith, Rec. Ind. Mus. 39:213, 1937  
*Microhylidae* sp. Zweifel, Am. Mus. Nov. 2113, 1962  
*Mixophyes* sp. Straughn, Proc. Linn. Soc. N.S.W. 93:52, 1968  
*fasciolatus scherilli*, f. *fasciolatus* diff. Loveridge, Oc. Pap. Boston Soc. N.H. 8:55, 1933  
*Morethia* sp., subsp. Storr, J. Roy. Soc. W. Aust. 55:73, 1972  
*Nephrurus* sp. Loveridge, Bull. M.C.Z. 77:241, 1934  
*Notechis* sp. Kinghorn, Rec. Aust. Mus. 13:143, 1921  
*Oedura* sp., subsp. Cogger, Proc. Linn. Soc. N.S.W. 82:167, 1957  
*Oedura (Aust.) Afroedura (Afr.)* diff. Loveridge, Am. Mus. Nov. 1254, 1944  
*Oedura castelnau, marmorata* diff. Bustard, Senck Biol. 51:21, 1970  
*Ophioseps Aprasia* diff. Kinghorn, Rec. Zust. Mus. 14:126, 1923  
*Philas johnstonii* diff from *Crocodilus vulgaris, madagascariensis* Gray, P.Z.S. Lond. 177, 1874  
*Philoria, Limnodynastes* diff. Moore, Am. Mus. Nov. 1919; 1958, after Parker, Nov. Zool. 42:1, 1940  
*Pseudechis* sp. Mackay, Proc. Roy. Zool. Soc. N.S.W. 15, 1955; Waite, Longman, Rec. S. Aust. 1:73, 1920; Kinghorn, Sydney, 1964  
*Pseudelaps* sp. Fry, Proc. Roy. Soc. Qnsl. 27:60, 1915  
*Pseudophryne australis, bibroni* diff. from *Rana opisthoton*, *Hylodes martinicensis* Fletcher, Proc. Linn. Soc. N.S.W. 4:357, 1889 (1890)

**Pygopodidae gen.** Fischer, Arch. Nat. 48:281, 1882; Kinghorn, Rec. Aust. Mus. 15:40, 1926  
 gen., sp. Boulenger, Cat. Liz., I, 1885

**Pygopodidae, Typhlopidae** diff. Rawlinson, Vict. Nat. 81:245, 1965  
**Pygopus** sp. Kinghorn, Rec. Aust. Mus. 15:40, 1926  
**Pygopus, Cryptodelma**, Delma diff. Kinghorn, Rec. Aust. Mus. 15:40, 1926  
**Rana** sp. Boulenger, Rec. Ind. Mus. 20:1, 1920  
 opisthoton, *Hylodes martinicensis* diff. from *Pseudophryne australis*, *P. bibroni* Fletcher, Proc. Linn. Soc. N.S.W. 4:375, 1889 (1890)

**Rhynchelaps** see **Rhynchoelaps**

**Rhynchoelaps** sp. Kinghorn, Rec. Aust. Mus. 17:190, 1929; Thomson, P.Z.S. Lond. 529, 1934

**Sphenophryne** sp. Zweifel, Am. Mus. Nov. 2214, 1965

**Taudactylus acutirostris**, *Hyla bicolor*, *H. glauerti*, *H. dorsalis microbelas* diff. Straughn, Proc. Roy. Soc. Qnsl. 80:43, 1969

**Tiliqua** sp. Strauch, Mel. Biol. St. Peters. 5:763, 1866  
 sp., subsp. Mitchell, Rec. S. Aust. Mus. 275, 1950

**Tiliqua, Egernia** diff. Mitchell, Rec. S. Aust. Mus. 9:275, 1950

**Tympanocryptis** sp., subsp. Mitchell, Rec. S. Aust. Mus. 9:57, 1948

**Typhlopidae** sp. Waite, Rec. S. Aust. Mus. 1:1, 1918

**Typhlopidae, Pygopodidae, Elapidae** diff. Rawlinson, Vict. Nat. 81:245, 1965

**Typhlops** sp. Glaert, J. Roy. Soc. W. Aust. 14:61, 1928; Kinghorn, Sydney, 1964  
**Varanus** sp. Smith, J. Bombay N.H.S. 35:615, 1932  
 subgen., sp. Mertens, Abh. Senck. Nat. Ges. 466:235, 1942  
 sp., subsp. Glaert, W. Aust. Nat. 3:14, 1951; Mertens, Senck. Biol. 39:229, 1958

**Viperidae** sp. Gray, Zool. Misc. 68, 1842

Melbourne Area

**Anura** eggs Martin, Littlejohn, Vict. Nat. 83:312, 1966

New Holland see Australia

New South Wales

**Anura** sp. Cogger, Sydney, 1960; More, Bull. A.M.N.H. 121:153, 1961

North Australia

**Crocodus** see **Crocodylus**

**Crocodylus** sp. Ogilby, Proc. Roy. Soc. Qnsl. 19:1, 1905

**Discocleles** sp. Boulenger, An. Mag. N.H. 1:236, 1918

**Hylorana** sp. Boulenger, An. Mag. N.H. 1236, 1918

**Rana** sp. Boulenger, An. Mag. N.H. 1:236, 1918

Northern Territory

**Ctenotus** sp., subsp. Storr, J. Roy. Soc. W. Aust. 51:97, 1968  
**Hyla lesueuri** (complex) Tyler, Rec. S. Aust. Mus. 15: 711, 1968  
**Sphenomorphus** sp. Storr, J. Roy. Soc. W. Aust. 50:10, 1967  
**Vermicella** sp. Storr, J. Roy. Soc. W. Aust. 50:80, 1967

Queensland

**Heteropus** sp. DeVis, Proc. Linn. Soc. N.S.W. 2:811, 1887 (1888)  
**Taudactylus** sp. Liem, Hosmer, Mem. Qnsl. Mus. 16:435, 1973

South Australia

**Amphibia** fam. to sp. Waite, Adelaide, 1929  
 sp. Tyler, S. Aust. Mus. (publ.), 1966

**Reptilia** fam. to sp. Waite, Adelaide, 1929

**Aprasia** sp. Kinghorn, Rec. Aust. Mus. 15:40, 1926

**Ctenotus** sp. Storr, Rec. S. Aust. Mus. 16:1, 1971

Kangaroo Island

**Crinia** (with lower surface granular or areolate) sp. Condon, Rec. S. Aust. Mus. 7:111, 1941  
 affinis subsp. Condon, Rec. S. Aust. Mus. 7:111, 1941  
 signifera subsp. Condon, Rec. S. Aust. Mus. 7:111, 1941

Southeastern Australia

**Hyla verreauxi, ewingi, jervisiensis** diff. Martin, Littlejohn, Proc. Linn. Soc. N.S.W. 91:47, 1966

Southwestern Australia

**Anura** Main, W. Aust. Nat. 4:114, 1954

Tasmania

**Amphibia** sp., subsp. Loveridge, Pap. Proc. Roy. Soc. Tasman 56, 1934  
**Egernia** sp., subsp. Storr, J. Roy. Soc. W. Aust. 51:51, 1968  
**Hyla** sp. Scott, Rec. Qn. Vic. Mus. 1:5, 1942  
**Leptodactylidae** gen. Lynch, U. Kans. Mus. N.H. Misc. Publ. 53, 1971  
**Lerista** sp. Storr, J. Roy. Soc. W. Aust. 54:59, 1971  
**Pygopodidae** gen. Boulenger, Cat. Liz., I, 1885; Kinghorn, Rec. Aust. Mus. 15:40, 1926  
**Pygopus** sp. Kinghorn, Rec. Aust. Mus. 15:40, 1926

	Victoria	
Testudines (freshwater) sp.	Goode, Vict. Nat. 82:169, 1965	
	Western Australia	
Anura sp.	Main, W. Austral. Nat. Club 3, 1954	
gen., sp.	Main, W. Austral. Nat. Club 8, 1965	
Sauria gen., sp.	Glauert, W. Austral. Nat. Club 6, 1961	
Serpentes groups sp. common names	Glauert, W. Austral. Nat. Club 1,2,3 eds, 1950-1967	
Amphibolurus maculatus group (based on male characteristics) sp.	Storr, J. Roy. Soc. W. Aust. 48:45, 1965	
reticulatus (group) sp., subsp.	Storr, Proc. Roy. Soc. W. Aust. 49:17, 1966	
Aprasia sp.	Kinghorn, Rec. Aust. Mus. 15:40, 1926	
Coleodactylidae sp.	Glauert, J. Roy. Soc. W. Aust. 14:61, 1928	
Crinia sp.	Main, Aust. J. Zool. 5:30, 1957	
Ctenotus sp., subsp.	Storr, J. Roy. Soc. W. Aust. 51:97, 1968; Storr, J. Roy. Soc. W. Aust. 52:97, 1969	
Gekkonidae gen., sp.	Glauert, W. Aust. Nat. 4:174, 1955	
Hydrophiidae sp.	Glauert, J. Roy. Soc. W. Aust. 14:61, 1928	
Hyla lesueuri (complex) sp.	Tyler, Rec. S. Aust. Mus. 15:711, 1968	
Nepharurus sp.	Storr, J. Roy. Soc. W. Aust. 46:85, 1963	
Sphenomorphus sp.	Storr, J. Roy. Soc. W. Aust. 50:10, 1967	
Tymanocryptis sp., subsp.	Storr, J. Roy. Soc. W. Aust. 47:43, 1964	
Vermicella sp., subsp.	Storr, J. Roy. Soc. W. Aust. 50:80, 1967	





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EUROPE

Amphibia gen., sp. tadpole	Boulenger, P.Z.S. Lond. 593, 1891
sp. larvae	Boulenger, Paris, 1910.
gen., sp.	Schreiber, Jena, 1912
fam. to sp., larvae	Brohmer, Ehrman, Ulmer, Leipzig, 1929
fam., sp.	Sternfeld, Steiner, Heidelberg, 1952
fam. to sp.	Mertens, F.A.M. 1960
gen., sp. (common names)	Dottrens, Neuchatel, 1963
sp.	Capocaccia, Milan, 1968
Reptilia gen., sp.	Schreiber, Herp. Eur. 1912
subord. to sp.	Brohmer, Ehrman, Ulmer, Leipzig, 1929
fam. to sp.	Mertens, F.A.M. 1960
gen., sp. (common names)	Dottrens, Neuchatel, 1963
Anura sp.	Bedridge, Bull. Soc. Imp. Moscolo 3:210, 1889
gen.	Boulenger, London, 1897
Caudata sp.	Bedridge, An. Mag. N.H. 12:338, 1893; Bedridge, Zool. Anz. 214, 1893;
fam. to sp. adult & larvae	Bedridge, Bull. Soc. Imp. Moscolo 10:187, 1896 (1897)
Squamata sp.	Thorn, Paris, 1968; Maxwell, Busack/Thorn, Bull. Med. Herp. Soc. 7:99, 1971
Aeluroglena, Coluber, Coronella, Meizodon	Sternfeld, Steiner, Heidelberg, 1952
Apathya, Lacerta diff.	Meizodon diff. Bogert, Bull. A.M.N.H. 77:1, 1940
Archaeolacerta	Mehely, An. Mus. Nat. Hung. 7:407, 1909
Bufo sp.	Boulenger, P.Z.S. Lond 545, 1880
Chamaeleon sp.	Werner, Zool. Jb. 15:295, 1902
Chamaeleontidae gen., sp.	Werner, 27 Lf. Berlin, 1911
Coluber, Coronella, Meizodon, Aeluroglena	Aeluroglena diff. Bogert, Bull. A.M.N.H. 77:1, 1940
Coronella sp.	Boulenger, P.Z.S. Lond. 299, 1919
Lacerta (subgen.) sp.	Bedridge, Abh. Senck 14:18, 1886; Klemmer, Abh. Senck Nat. Ges. 496, 1957
sp.	Mehely, An. Mus. Nat. Hung. 7:407, 1909
subgen., sp. subsp.	Peters, Mit. Zool. Mus. Berl. 38:127, 1962
Lacerta subgen. (Podarcis), Archaeolacerta sp.	Werner, Abh. Senck Nat. Ges. 496, 1957
viridis subsp.	Werner, Sitz. Ak. Wien 111:1, 1902
related to graeca & danfordi sp.	Werner, Zool. Anz. 27:254, 1904
related to muralis sp.	Boulenger, An. Mag. N.H. 5:247, 1910, after Mehely, An. Mus. Nat. Hung. 7:407, 1909; Boulenger, Trans. Zool. Soc. Lond. 21:1, 1916
peloponesiaca, erhardii diff.	Buchholz, Bonner, Zool. Beitr. 11:87, 1960, after Werner, Zoologica 94, Stuttgart, 1938
trilineata trilineata, t. media, viridis viridis, v. meridionalis & strigata diff.	Fuhn, Bull. St. Sect. 8:469, 1956
Meizodon, Coluber, Coronella, Aeluroglena diff.	Bogert, Bull. A.M.N.H. 77:1, 1940
Molge	see Caudata
Natricinae gen.	Malnate, Proc. Ac. N.S. Phila. 12:41, 1960
Ophiomorus sp.	Anderson, Leviton, Proc. Cal. Ac. Sci. 33:499, 1966
Peltastes sp.	Gray, P.Z.S. Lond. 653, 1870
Podarcis	see Lacerta
Rana (red frog section) sp.	Boulenger, Bull. Soc. Zool. France 1, 1880
dalmatina, arualis, temporaria diff.	Fuhn, Com. Ac. R.P.R. 6:297, 1956
temporaia, arralis, agilis diff.	Boulenger, Sitz. Freunde Berl. 5:67, 1886
Triturus alpestris subsp.	Dely, Act. Zool. Budapest 5:255, 1959
Tropidonotus sp.	Boulenger, P.Z.S. Lond. 299, 1919
Vipera macrops	Mehely, Renardi, Am. N.H. Hung. 9:186, 1911
ammodytes subsp.	Brunio, Mem. Mus. Verona 15:289, 1967
ursinii subsp.	Kramer, Rev. Swisse Zool. 68:627, 1961
Viperidae	Gray, Zool. Misc. 68, 1842, rprnt S.S.A.R., 1971
sp., subsp.	Schwarz, Marburg, 1936
Zamenis sp.	Boulenger, P.Z.S. Lond. 299, 1919

AUSTRIA

Amphibia sp.	Werner, Wien, 1897
Reptilia sp.	Werner, Wien, 1897

BALEARIC ISLANDS

Podarcis pityuensis group	sp., subsp. Mertens, Senckenb. 3:142, 1921
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BELGIUM

Amphibia subord, gen. to subsp.	de Witte, Brussels, 1948
Reptilia subord, gen. to subsp.	de Witte, Brussels, 1948

## CENTRAL EUROPE

Amphibia sp. Werner, Wien, 1897  
 fam. to subsp. larvae, eggs Frommhold, Radebeul, 1959  
 Reptilia sp. Werner, Wien, 1897  
 fam. to subsp. larvae, eggs Frommhold, Radebeul, 1959

## CYPRUS

Chamaeleontidae, gen., sp. Werner, 27 Lf. Berlin, 1911  
*Lacerta muralis* group sp. Boulenger, Trans. Zool. Soc. Lond. 21:1, 1916

## DENMARK

Amphibia gen., sp. Jungersten, Copenhagen, 1907  
 sp. larvae Schiøtz, N.H. Mus. Aarhus. 15, 1971  
 Reptilia sp. Schiøtz, N.H. Mus. Aarhus. 15, 1971

## FRANCE

Amphibia sp. Lataste, Act. Soc. Linn. Bordeaux 30, 1876  
 fam. to sp. Angel, Paris, 1946  
 gen., sp. Angel, Paris, 1949  
 Reptilia sp. Lataste, Act. Soc. Linn. Bordeaux 30, 1876  
 gen., sp. Angel, Paris, 1946  
 Sauria sp. Angel, Paris, 1949  
 Serpentes sp. Angel, Paris, 1949  
 Lacerta sp. Angel, Paris, 1949

## GERMANY

## Northwest Germany

Amphibia gen., sp. Wolterstorff, Wetal, Magdeburg, 1893  
 Reptilia gen., sp. Wolterstorff, Wetal, Magdeburg, 1893

## Rhein-Main

Amphibia sp., subsp. Mertens, F.a.M., 1947  
 Reptilia sp. Mertens, F.a.M., 1947

## GREAT BRITAIN

Anura sp. tadpoles, eggs Smith, London, 1954  
 Sauria sp. Simms, Norwich, 1970  
 Testudines sp., marine Smith, London, 1954  
*Lacerta agilis*, vivipara sp. diff. Smith, London, 1954  
*Natrix*, Coronella, Vipera gen. diff. Smith, London, 1954

## GREECE

*Lacerta peloponnesiaca*, erhardii diff. Buchholz, Boner Zool. Beitr. 11:87, 1960, after Werner, Zoologica, Stuttgart 94, 1938  
*Vipera* sp. Ondrias, Biol. Gal. Hel. 2"185, 1969

## GREEK ISLANDS

Agama stellio subsp. Daan, Beaufort 14:109, 1967  
 Blanus subsp. Alexander, Copeia 205, 1966  
 Chamaeleonidae gen., sp. Werner, 27 Lf. Berlin, 1911  
*Lacerta* related to *muralis* sp. Boulenger, Trans. Zool. Soc. Lond. 21:1, 1916  
*Telescopus fallax* subsp. Wettstein, Sitz. Ost. Ak. Wiss 162:651, 1953  
*Vipera libertina* subsp. Werner, Sitz. Ak. Wien 144:82, 1935

## HUNGARY

Amphibia sp. Werner, Wien, 1897  
 Reptilia sp. Werner, Wien, 1886  
 Anura gen., sp. larvae Bolkay, An. Mus. Nat. Hung. 7:71, 1909

Caudata sp. larvae  
Triturus alpestris subsp.

Mehely, Term. Fuz. 18:270, 1895  
Dely, Act. Zool. Budapest 5:255, 1959

#### ITALY

Amphibia fam. to sp.  
Reptilia sp.  
Vipera ammodytes subsp.

Tortonese, Lanza, Milan, 1968  
Capocaccia, Milan, 1968; Tortonese, Lanza, Milan, 1968  
Bruno, Mem. Mus. Verona 15:289, 1967

Amphibia gen., sp.  
Reptilia gen., sp.

Venice and Tyrol  
deBetta, Ac. Agr. Verona 35, 1857  
deBetta, Ac. Agr. Verona 35, 1857

Lacerta subgen., sp.

Mediterranean Islands  
Bedridge, Abh. Senck. 14:17, 1886

#### JUGOSLAVIA

Amphibia fam. to sp.  
Reptilia fam. to sp.

Radovanovic, Belgrade, 1951  
Radovanovic, Belgrade, 1951

Lacerta muralis neopolitana varieties      Werner, Ver. Zool. Bot. Wien 41:751, 1891

#### NETHERLANDS

Amphibia fam. to sp.  
sp.  
Reptilia fam. to sp.

VanKampen, Heimans, Leiden, 1927  
Van De Bund, Wet. Med. Nederl. 73, 1968  
VanKampen, Heimans, Leiden, 1927

#### POLAND

Amphibia gen., sp. larvae

Berger, Michalowski, 1971

#### PORUGAL

Amphibia fam. to subsp.  
fam. to sp.

Ladeiro, Mem. Coimbra 243, 1956  
Serra, Alburquerque Rev. Port. Zool. 4:75, 1963

#### ROMANIA

Amphibia fam. to subsp.  
sp., subsp. larvae  
Reptilia suprafam. to subsp.

Fuhn, Ed. Ac. Rom. 14, 1960  
Fuhn, Bucharest, 1969  
Fuhn, Vancea Ac. Rom. 14, 1961

#### SOUTHEASTERN EUROPE

Lacerta viridis subsp.  
Vipera ursinii subsp.

Werner, Sitz. Ak. Wien 111:1057, 1902  
Kramer, Rev. Suisse Zool. 68:627, 1961

#### SPAIN

Amphibia sp.  
Reptilia sp.  
Amphisbaenia sp.  
Amphisbaenidae sp.  
Chamaeleontidae gen., sp.  
Lampedusa sp.  
Trogonophidae sp.

Nadel et al., Publ. Pir. 1968  
Nadel et al., Publ. Pir. 1968  
Gray, P.Z.S. Lond. 442, 1865  
Gray, P.Z.S. Lond. 442, 1865  
Werner, 27 Lf. Berlin, 1911  
Boulenger, P.Z.S. Lond. 267, 1919  
Gray, P.Z.S. Lond. 442, 1865

Serpentes gen., sp.

Catalonia  
Maluquer, Mus. Barcon. Sci., Nat. Zool. 7:1, 1917

#### SWITZERLAND

Amphibia fam. to sp.  
ord. to sp.

Fatio, Geneva, 1872  
Broadmann, Nat. Mus. Basel 1971

INDO - AUSTRALIAN ARCHIPELAGO

Amphibia fam. to sp., larvae  
 gen.  
 Reptilia gen.  
 Crocodilia gen., sp.  
 Gymnophiona fam. to sp.  
 Sauria fam. to sp.  
 Serpentes fam. to sp.  
     fam. to sp., poisonous  
 Testudines fam. to sp.  
 Asterophryinae gen., sp.  
 Boiga dendrophila subsp.  
 Chelodina sp.  
 Chrysopelea sp., subsp.  
 Cnemaspis sp.  
 Crocodilus see Crocodylus  
 Crocodylus sp.  
 Crocodylus johnstonii, porosus, mindorensis, novaeguinea diff. Schmidt, Field. Zool. 33:535, 1956  
 Cyclodus see Tiliqua  
 Cylindrophis sp.  
 Demansia gen., group  
 Dendrelaphis sp.  
 Dendrophis sp.  
 Diplodactylus sp.  
 Dipsadinae sp.  
 Draco sp.  
 Hylella sp.  
 Lechriodus sp.  
 Leptobrachium sp.  
 Leptodactylidae gen.  
 Lycodon subcinctus subsp.  
 Lygosoma sections groups by sp.  
 Lygosoma fuscum subsp.  
 Maticora sp., subsp.  
 Megalophrys sp.  
 Microhyla sp.  
 Heosemys sp.  
 Natricinae gen.  
 Otosaurus sp., grouped  
 Platymantis corruqatus & c. papuensis diff. Loveridge, Bull. M.C.Z. 10:303, 1948  
 Pseudorabdion sp.  
 Rana sp.  
 Rhacophoridae gen., sp.  
 Rhacophorus sp.  
 Phenomorphus variegatum subsp. Loveridge, Bull. M.C.Z. 10:303, 1948  
 Stuarois sp., larvae with suctorial disc Kripalani, Rec. Ind. Mus. 50:359, 1953  
 Tachydromus sp.  
 Testudinidae gen.  
 Tiliqua sp.  
 Tortriciden see Xenopeltinae  
 Trimeresurus sp.  
 Trimeresurus hageni, sumatranaus diff. Pope, Pope, Am. Mus. Nov. 620, 1933; Maslin, Copeia 18, 1942  
 Trionychidae sp.  
 Typhlina multilineata group sp. McDowell, J. Herp. 8:1, 1974  
 Varanus sp.  
     subgen., sp.  
     sp., subsp.  
 Xenopeltinae sp.  
 VanKampan, Leiden, 1923  
 Loveridge, N. Y., 1945  
 Loveridge, N. Y., 1945  
 Rooij, Leiden, I, 1915  
 Taylor, Lawrence, 1968  
 Rooij, Leiden, I, 1915  
 Rooij, Leiden, II, 1917  
 Oshima, Tokyo, 1943  
 Rooij, Leiden, I, 1915  
 Zweifel, Bull. A.M.N.H. 148:411, 1972  
 Brongersma, Zool. Med. 17:161, 1934  
 Siebenrock, Sitz. Ak. Wien 124:13, 1915  
 Mertens, Senck. Biol. 49:191, 1968  
 Loveridge, P.Z.S. Lond. 817, 1935  
 Ogilby, Proc. Roy. Soc. Qnsl. 19:1, 1905  
 Blanford, P.Z.S. Lond. 215, 1881; Roux, Zool. Jb. 30:495, 1911  
 McDowell, J. Zool. 151:497, 1967  
 Mertens, Arch. Nat. 3:187, 1934  
 Meise, Henning, Zool. Anz. 99:273, 1932  
 Kluge, Austral. J. Zool. 15:1007, 1967  
 Boulenger, Cat. Snake, III, 1896  
 Henning, Temin. J. Syst. Zool. 1:153, 1936  
 Werner, Ver. Zool. Bot. Wien 51:593, 1901  
 Zweifel, Am. Mus. Nov. 2507, 1972  
 Boulenger, An. Mus. Genoa 27:748, 1889  
 Lynch, U. Kans. M.N.H. Publ. 53, 1971  
 Leviton, Philip. J. Sci. 84:195, 1955  
 Smith, Rec. Ind. Mus. 39:213, 1937  
 Loveridge, Bull. M.C.Z. 10:303, 1948  
 Loveridge, Proc. Biol. Soc. Wash. 57:105, 1944  
 Boulenger, An. Mus. Genoa 24:512, 1887; Boulenger, P.Z.S. Lond. 407, 1908  
 Vogt, Sitz. Freunde Berl. 3:222, 1913; Parker, An. Mag. N.H. 2:473, 1928  
 Baur, Aquar. 6:30, 1972  
 Malnate, Proc. Ac. N.S. Phila. 112:41, 1960  
 Smith, Rec. Ind. Mus. 39:213, 1937  
 Leviton, Brown, Proc. Gal. Ac. Sci. 29L475, 1959  
 Boulenger, Rec. Ind. Mus. 20:1, 1920  
 Ahl, Das Tier., III, 1931  
 Wolf, Bull. Raffles Mus. 12:137, 1936  
 Loveridge, Bull. M.C.Z. 10:303, 1948  
 Gunther, An. Mag. N.H. 1:165, 1887; Boulenger, Mem. As. Soc. Bengal 5:207, 1917  
 Siebenrock, Sitz. Ak. Wien 112:333, 1903  
 Strauch, Mel. Biol. Bull. Ac. St. Petersb. 5:763, 1866  
 Pope, Pope, Am. Mus. Nov. 620, 1933; Maslin, Copeia 18, 1942  
 Haile, Sarawak Mus. J. 8:743, 1958  
 Inger, Marx, Field. Zool. 49:1, 1965  
 Inger, Sarawak Mus. J. 8:261, 1957  
 Gray, P.Z.S. Lond. 76, 1864  
 McDowell, J. Herp. 8:1, 1974  
 Smith, J. Bombay N.H.S. 35:615, 1932  
 Mertens, Abh. Senck. Nat. Ges. 466:235, 1942  
 Mertens, Senck. Biol. 40:221, 1959  
 Jan, Arch. Nat. 28:238, 1862

BORNEO

Amphibia fam. to sp., larvae  
 Serpentes gen., sp.  
 Calamaria sp., subsp.  
 Cyrtodactylus sp.  
 Dyscophidae see Microhylidae  
 Gonatodes kendallii, affinis, nigridius, siamensis diff. Smith, Sarawak Mus. J. 3:15, 1925  
 Megalophrys sp.  
 Microhylidae gen.  
 Morenia, Orlitia, Ocadia diff.  
 Nectophryne sp.  
 Ocadia, Orlitia, Morenia diff.  
 Phoxophrys sp.  
 Inger, Field. Zool. 52:1, 1966  
 Haile, Sarawak Mus. J. 8:743, 1958  
 Inger, Marx, Field. Zool. 49:1, 1965  
 Inger, Sarawak Mus. J. 8:261, 1957  
 Boulenger, P.Z.S. Lond. 407, 1908  
 Boulenger, An. Mag. N.H. 13:42, 1904  
 Siebenrock, Zool. Anz. 27:580, 1904  
 Inger, Copeia 221, 1960  
 Siebenrock, Zool. Anz. 27:580, 1904  
 Inger, Copeia 221, 1960

Pseudorhabdion sp.	Inger, Leviton, Proc. Cal. Ac. Sci. 34:307, 1966; Leviton, Brown, Proc. Cal. Ac. Sci. 29:475, 1959
Rana jerboa, masonii, whiteheadi, natatrix ( <i>Ixalus nubilus</i> ), latpalmata, cavitypanum diff.	Boulenger, P.Z.S. Lond. 522, 1893
Sphenomorphus sp.	Bacon, Field. Zool. 51:63, 1967
Staurois sp.	Boulenger, An. Mag. N.H. 1:372, 1918
Tropidonotus conspicillatus, sarawakensis diff.	Kloss, J. Fed. Malaya St. Mus. 6:41, 1915

## North Borneo

Ansonia sp., subsp.	Inger, Field. Zool. 39:473, 1960
Leptobrachella sp.	Smith, Bull. Raffles Mus. 5:3, 1931
Rhacophorus paradalis, leucomystax, otilophus larvae diff.	Inger, Field. Zool. 34:389, 1956

## CELEBES

Amphibia sp.	Boulenger, P.Z.S. Lond. 193, 1897
Reptilia sp.	Boulenger, P.Z.S. Lond. 193, 1897
Boiga dendrophila subsp.	Brongersma, Zool. Med. 17:161, 1934
Calamaria sp.	Smith, P.Z.S. Lond. 199, 1927
sp., subsp.	Inger, Marx, Field. Zool. 49:1, 1965
Cherainella, Peltastes sp. diff.	Gray, P.Z.S. Lond. 615, 1872
Gymnodactylus fumosus, marmoratus diff.	Brongersma, Zool. Med. 17:161, 1934
Maja kaouthia subsp.	Deraniyagala, Spol. Zeyl. 29:41, 1960
Otosaurus (grouped) sp.	Smith, Rec. Ind. Mus. 39:213, 1937
Peltastes sp.	Gray, P.Z.S. Lond. 615, 1872
Peltastes, Cherainella sp. diff.	Gray, P.Z.S. Lond. 615, 1872

## INDONESIA

Serpentes sp.	Hoesel, Mus. Zool. Borgor. 1959
Aspidus gatagholt, javanicus diff.	Gray, An. Mag. N.H. 10:326, 1872
Boiga dendrophila subsp.	Brongersma, Zool. Med. 17:161, 1934
Calamaria sp., subsp.	Inger, Marx, Field. Zool. 49:1, 1965
Gymnodactylus marmoratus, fumosus diff.	Brongersma, Zool. Med. 17:161, 1934
Megalophrys sp.	Gray, P.Z.S. Lond. 407, 1908
Microhyla sp.	Parker, An. Mag. N.H. 2:473, 1928

## KAISERWILHELMSLAND - See NEW GUINEA

Dendrophis sp.	Moluccas Meise, Henning, Zool. Anz. 99:273, 1932
Nectophryne sp.	Natuna Island Roux, P.Z.S. Lond. 58, 1906

NEW GUINEA  
(Includes Adjacent Islands)

Amphibia sp.	VanKampen, Leiden, 1923
fam. to subsp.	Loveridge, N. Y., 1944
Reptilia subord. to subsp.	Loveridge, N. Y., 1944
Serpentes sp.	Werner, Ver. Zool. Bot. Wien 49:132, 1899
Testudines sp.	Vogt, Sitz. Ak. Berl. 9:410, 1911
Aipysurus group gen.	McDowell, J. Zool. Lond. 151:497, 1967
Apistocalamus sp.	Boulenger, An. Mag. N.H. 1:248, 1908
Aspidomorphus sp.	McDowell, J. Zool. Lond. 151:497, 1967
Asterophryss sp.	Ahl, Mitt. Zool. Mus. Berl. 17:892, 1931
Chaperina sp.	VanKampen, Nov. Guin. 5:163, 1906
Chelidae gen., sp.	Gray, P.Z.S. Lond. 128, 1864
gen.	Boulenger, An. Mag. N. H. 1:346, 1888
Chelodina sp.	Fry, Proc. Roy. Soc. Queensl. 27:60, 1915; Sievenrock, Sitz. Ak. Wien 124:13 1915
Chelydidae see Chelidae	
Chelyidae see Chelidae	
Cophixalus sp.	Zweifel, Am. Mus. Nov. 2087, 1962
Crocodilus see Crocodylus	
Crocodylus sp.	Ogilby, Proc. Roy. Soc. Queensl. 19:1, 1905
Crocodylus novaeguinea subsp.	Wermuth, Mitt. Zool. Mus. Berl. 29:375, 1953
Crocodylus johnstonii, prorsus, mindorenses, novaeguinea diff.	Schmidt, Field. Zool. 33:533, 1956
Demansia group gen.	McDowell, Cogger, J. Zool. Lond. 151:497, 1967
Discocleles sp.	Boulenger, An. Mag. N.H. 1:236, 1918

Engystomatidae see Microhylidae	
Hyla sp.	Werner, Zool. Anz. 24:97, 1901; Tyler, Zool. Verh. 96:1, 1968; Bulmer, Tyler, J. Polynes. Soc. 77:333, 1968
Hyella sp.	Werner, Ver. Zool. Bot. Wien 51:593, 1901
Hylorana sp.	Boulenger, An. Mag. N. H. 1:236, 1918
Lechriodus sp.	Zweifel, Am. Mus. Nov. 2507, 1972
Lechriodus fletcheri, f. papuanus	Loveridge, Breviora 555, 1956
Leptodactylidae gen., sp.	Parker, Nov. Zool. Tring. 42:1, 1940
gen.	Lynch, U. Kans. Mus. N.H. Misc. Publ. 53, 1971
Lialis sp.	Kinghorn, Rec. Austral. Mus. 14:184, 1924; Kinghorn, Rec. Austral. Mus. 15:40, 1926
Lipinia sp.	Boulenger, Trans. Zool. Soc. Lond. 12:35, 1890
Lygomoma (Leioploisma) fuscus	subsp. Loveridge, Bull. M.C.Z. 101:303, 1948
Lygosoma (Sphenomorphus) variegatum	subsp. Loveridge, Bull. M.C.Z. 101:303, 1948
Mantophryne sp.	Werner, Zool. Anz. 24:97, 1901
Microhyla sp.	Bulmer, Tyler, J. Polynes. Soc. 77:333, 1968
Microhylidae sp.	Vogt, Sitz., Freunde Berl. 9:420, 1911
Nyctimystes sp.	Parker, An. Mag. N. H. 17:66, 1936; Zweifel, Am. Mus. Nov. 1896, 1958; Bulmer, Tyler, J. Polynes. Soc. 77:333, 1968
Oreophryne parkeri, anthonyi, biroi	diff. Loveridge, Breviora 50, 1955
Otosaurus sp. grouped	Smith, Rec. Ind. Mus. 39:213, 1937
Platymantis sp.	Gorham, Zool. Beitr. 11:381, 1965; Zweifel, Am. Mus. Nov. 2374, 1969
Platymantis papuensis	subsp. Brown, Tyler, Proc. Biol. Soc. Wash. 81:69, 1968
Platymantis c. corrugatus, c. papuensis	diff. Loveridge, Bull. M.C.Z. 101:303, 1948
Pseudechis sp.	Mackay, Proc. Zool. Soc. N.S.W. 15, 1955
Pseudoapistocalamus sp.	Boulenger, An. Mag. N.H. 1:248, 1908
Pygopodidae gen.	Fischer, Arch. Nat. Berl. 48:281, 1882; Boulenger, Cat. Liz., I, 1885; Kinghorn, Rec. Ind. Mus. 15:40, 1926
Rana sp.	Boulenger, An. Mag. N.H. 1:236, 1918; Boulenger, Rec. Ind. Mus. 20:1, 1920; Bulmer, Tyler, J. Polynes. Soc. 77:333, 1968
Rana papua, grisea	diff. Parker, An. Mag. N.H. 17:66, 1936
Stegonotus sp.	McDowell, Zool. Med. 47:6, 1972
Toxicocalamus sp.	subgen., sp. Boulenger, An. Mag. N.H. 1:248, 1908
Tribolonotus sp.	McDowell, J. Zool. Lond. 159:443, 1969
Typhlina sp. groups	Burt, Burt, Bull. A.M.N.H. 63:461, 1932; Cogger, Zool. Med. 47:202, 1972
flaviventer group sp.	McDowell, J. Herp. 8:1, 1974
multilineata group sp.	McDowell, J. Herp. 8:1, 1974
polygrammica group sp.	McDowell, J. Herp. 8:1, 1974
Typhlops ater	group sp. McDowell, J. Herp. 8:1, 1974
Typhlopidae gen., sp. groups	McDowell, J. Herp. 8:1, 1974
Xenorhina sp.	Ahl, Mitt. Zool. Mus. Berl. 17:892, 1931

Papua {combined with New Guinea reference}  
West Irian {combined with New Guinea reference}

#### SARAWAK

Ansonia sp., subsp.	Inger, Field. Zool. 39:473, 1960
Microhyla sp.	Parker, An. Mag. N.H. 2:473, 1928
Nectophryne sp.	Roux, P.Z.S. Lond. 58, 1906

#### SUMATRA

Boiga dendrophila subsp.	Brongersma, Zool. Med. 17:161, 1934
Calamaria sp., subsp.	Inger, Field. Zool. 49:1, 1965
Gymnodactylus marmoratus, fumosus	diff. Brongersma, Zool. Med. 17:161, 1934
Megalophrys sp.	Boulenger, P.Z.S. Lond. 407, 1908
Microhyla sp.	Parker, An. Mag. N.H. 2:473, 1928
Morenia Ocadia, Orlitia	diff. Siebenrock, Zool. Anz. 27:580, 1904

Sauria fam. to sp.  
Serpentes fam. to sp.

Fatio, Geneva, 1872  
Fatio, Geneva, 1872

UNION OF SOVIET SOCIALIST REPUBLIC  
(also includes Russia fauna, Soviet Central Asia, some Siberia: See also Asia)

Amphibia subord. to subsp.	Nikdskii, Petrograd, 1918, Jerusalem, 1962
ord., sp.	Terentjev, Chernier, 1949, Israel 1965
sp.	Strauch, Mem. Ac. St. Petersb. 21:1, 1873; Terentjev, Moscow, 1956;
Reptilia sp.	Terentjev, Chernier, 1949, Israel, 1965; Terentjev, Moscow, 1956
Anura larvae, eggs sp.	Terentjev, Chernier, 1949, Israel, 1965
sp.	Terentjev, Moscow, 1950
Sauria fam. to sp.	Nikolskii, I, Petrograd, 1915, Jerusalem, 1963
sp., subsp.	Terentjev, Chernier, Moscow, 1949, Israel, 1965
Serpentes sp.	Strauch, Mem. Ac. St. Petersb. 21:1, 1873
fam. to sp.	Nikolskii, II, Petrograd, 1916, Jerusalem, 1964
sp., subsp.	Terentjev, Chernier, Moscow, 1949, Israel, 1965
Testudines subord. to sp.	Nikolskii, I, Petrograd, 1915, Jerusalem, 1963
Lacerta subgen., sp.	Bedridge, Abh. Senck. 14:17, 1886
Kazakhstan	
Amphibia fam. to sp.	Iskakova, Alma Alta, 1959(1960)
Reptilia fam. to sp.	Paraskiv, Ac. Sci. Kazakh. 1956

Lacerta sp., subsp.	Caucases
	Darewskij, Leningrad, 1967

Eryx sp.	Southeast U.S.S.R.
tataricus subsp.	Tsarewsky, An. Mus. Zool. Petrogr. 20:340, 1915
miliaris subsp.	Tsarewsky, An. Mus. Zool. Petrogr. 20:340, 1915
Varanus subgen., sp.	Tsarewsky, An. Mus. Zool. Petrogr. 20:340, 1915
	Mertens, Abh. Senck. 466:235, 1942

Transcaucasia	
Lacerta allied to muralis sp.	Boulenger, Trans. Zool. Soc. Lond. 21:1, 1916

Reptilia sp.	Turkmen
	Bogdanov, Ashkhabad, 1962

Amphibia sp.	Ukraine
Sauria fa., to sp.	Tarashchuk, Kiev, 1959
Serpentes fam. to sp.	Tarashchuk, Kiev, 1959
	Tarashchuk, Kiev, 1959

INDIAN OCEAN AND ISLANDS

Caretta subsp.	Deraniyagala, Spol. Zeyl. 24:95, 1945
Chelonidae sp.	Deraniyagala, Spol. Zeyl. 19:241, 1936
Gekkonidae gen. to subsp.	Loveridge, Bull. M.C.Z. 98:1, 1947
Hydrophiidae gen., sp.	Wall, Mem. As. Soc. Beng. 2:169, 1909
gen. to subsp.	Smith, Brit. Mus. 1926
Hydrophiinae (gen. group) gen.	to sp. McDowell, Trans. Zool. Soc. Lond. 32:189, 1972
Hydrophis spiralis subsp.	Wall, J. Bomb. N.H.S. 26:430, 1919
Phelsuma sp.	Loveridge, Bull. M.C.Z. 89:437, 1942
sp., subsp. except Madagascar	Mertens, Senck. Biol. 47:85, 1966
Testudo sp.	Gunther, Gig. Tort. 1877
Typhlops sp.	Boulenger, P.Z.S. Lond. 267, 1919

Testudo sp.	Aldabra
	Rothschild, Nov. Zool. Tring. Ms. 22:418, 1915

Serpentes gen., sp.	Comoros
	Boulenger, P.Z.S. Lond. 369, 1915

Sauria fam. to sp.	Mascarenes
Serpentes gen., sp.	Vinson, Vinson, Bull. Mauritius Inst. 6:203, 1969
	Boulenger, P.Z.S. Lond. 369, 1915

Chamaeleonidae gen., sp.	Mauritius
Chamaeleontidae see Chamaeleonidae	Werner, Das Tier. 27, 1911

Pemba Island see AFRICA

## Seychelles

Gymnophiona fam. to sp.  
 Serpentes fam to. sp.  
 Aoaedon sp.  
 Boodon see Boaedon  
 Chamaeleonidae gen.,sp.  
 Chamaeleontidae see Chamaeleonidae  
 Diplopodactylus sp.  
 Hypogeophis rostratus subsp.  
 Megalixalus sp.  
 Pelomedusidae gen. to subsp.  
 Testudo sp.

Taylor, Lawrence, Kans. 1968  
 Boulenger, P.Z.S. Lond. 369, 1915  
 Gunther, An. Mag. N.H. 1:322, 1885  
 Gray, P.Z.S. Lond. 465, 1864; Werner, Das Tier. 27, 1911  
 Werner, Jena 2:451, 1910  
 Taylor, U. Kans. Sci. Bull. 48:281, 1969  
 Ahi, Mitt. Zool. Mus. Berl. 16:523, 1930  
 Loveridge, Bull. M.C.Z. 88:465, 1941  
 Rothschild, Nov. Zool. Tring. Mus. 22:418, 1915

## Socotra Island

Serpentes sp., subsp.  
 Tropidonophinae sp.

Parker, Zool. Verh. 6, 1949  
 Gans, Bull. A.M.N.H. 119:129, 1960

Sokotra Island see Socotra Island



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NO. 36

1976

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MADAGASCAR

Anura, gen. sp.  
 Sauria fam., subfam., sp.  
 Serpentes fam., sp.  
     fam., gen.  
     sp.  
 Squamata gen., sp.  
 Arthroleptis sp.  
 Brevicipitidae see Microhylidae  
 Brooksia sp.  
 Chamaeleo (males) sp.  
 Chamaeleonidae gen., sp.  
     sp.  
 Chamaeleontidae see Chamaeleonidae  
 Chamaesaura sp.  
 Cordylidae gen., sp.  
 Crocodilus see Crocodylus  
 Crocodylus niloticus subsp.  
 Crocodylus vulgaris, madagascariensis, johnstoni diff.  
 Diplodactylus sp.  
 Domerquella sp.  
 Dyscophidae see Microhylidae  
 Gekkonidae sp.  
     gen. to subsp.  
 Gephyromantis sp.  
 Gerrhosauridae see Cordylidae  
 Grandidierina sp.  
 Hyperolius sp.  
 Iguanidae gen., sp.  
 Liopholidophis sp.  
 Lygodactylus sp.  
 Mantidactylus sp.  
 Mantella sp.  
 Mantella, Stumpffia, Dendrobates diff.  
 Megalixalus sp.  
 Microhylidae gen.  
 Paroedura sp.  
 Pelomedusidae gen.  
     gen. to subsp.  
 Pelusius n. nigricans, n. castaneus diff.  
 Phelsuma sp.  
 Podocnemis sp.  
 Pseudoxyrhopus sp.  
 Rhacophoridae gen., sp.  
 Rhacophorus l. luteus, l. longicrus diff.  
 Stumpffia sp.  
 Stumpffia, Mantella, Dendrobates diff.  
 Testudo sp.  
 Uroplatidae see Gekkonidae

Moquard, Nouv. Arch. Mus. Paris 1:1, 1909  
 Angel, Mem. Ac. Malgache 36:1, 1942  
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 Guibe, Mem. Inst. Sci. Madagas. 12:189, 1958  
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 Werner, Zool. Jb. 15:295, 1902  
 Mertens, Senckenb. 15:260, 1933  
 Gray, P.Z.S. Lond. 465, 1864; Werner, Das Tier. 27, 1911  
 Angel, Bull. M.N.H.N. Paris 27, 1921; Brygoo, Bull. Ac. Malgache 46:13, 1968  
 Boulenger, P.Z.S. Lond. 722, 1894  
 Boulenger, Cat. Liz., III, 1887  
 Deraniyagala, Spol. Zeyl. 25:1, 1948  
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 Werner, Jena 2:451, 1910  
 Pasteur, Blanc, Bull. Soc. Zool. France 98:165, 1973  
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 Loveridge, Bull. M.C.Z. 98:1, 1947  
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 Angel, Bull. M.N.H.N. Paris 30:450, 1924  
 Ahl, Zool. Anz. 90:65, 1930  
 Boulenger, Cat. Liz., II, 1885  
 Parker, An. Mag. N.H. 16:390, 1925  
 Pasteur, Blanc, Bull. Soc. Zool. France 98:165, 1973  
 Boulenger, P.Z.S. Lond. 257, 1918; Laurent, Mus. Roy. H. N. Belg. 19:1, 1943  
 Werner, Verh. Zool. Bot. Wien 51:627, 1901  
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 Ahl, Mitt. Zool. Mus. Berl. 16:523, 1930  
 Boulenger, An. Mag. N.H. 4:244, 1889; Ibid. 13:42, 1904; Noble, Parker,  
     Am. Mus. Nov. 232, 1926  
 Dixon, Kroll, Copeia 1:24, 1974; see Sauria (Phyllodactylus)  
 Boulenger, An. Mag. N.H. 1:346, 1888  
 Loveridge, Bull. M.C.Z. 88:465, 1941  
 Siebenrock, Zool. Jb. Syst. 3:558, 1909; Loveridge, Bull. M.C.Z.  
     74:195, 1933  
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 Siebenrock, Sitz. Ak. Wien 111:157, 1902; Williams, Bull. M.C.Z. 111:280, 1954  
 Boulenger, An. Mag. N.H. 6:311, 1890  
 Ahl, Das Tier, III, 1931  
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 Werner, Verh. Zool. Bot. Wien 51:627, 1901  
 Werner, Verh. Zool. Bot. Wien 51:627, 1901  
 Rothschild, Nov. Zool. Tring. Mus. 22:418, 1915

NEW ZEALAND

Sauria gen., sp.  
 Serpentes  
 Testudines (marine) gen.  
 Gekkonidae gen.  
 Heterophis sp.  
 Hoplodactylus sp.  
 Hoplodactylus, Dravidogecko (of India) diff.  
 Hydrophiidae sp.  
 Hyla sp.  
 Leiopelma sp.  
     archeyi, hochstetteri diff.  
 Scincidae gen. to subsp.

Hutton, Drummond, 1905  
 McCann, Rec. Domin. Mus. 5:201, 1966  
 McCann, Tuatara 14:73, 1966; McCann, Rec. Domin. Mus. 5:201, 1966  
 McCann, Domin. Mus. Bull. 17, 1955  
 McCann, Domin. Mus. Bull. 17, 1955  
 Smith, Rec. Ind. Mus. 35:9, 1933; McCann, Domin. Mus. Bull. 17, 1955  
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 McCann, Tuatara 14:73, 1966  
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 Stephenson, Tuatara 8:99, 1961  
 Stephenson, Stephenson, Trans. Roy. Soc. N.Z. 84:867, 1957  
 McCann, Domin. Mus. Bull. 17, 1955

PACIFIC OCEAN AND ISLANDS

Amphibia fam. to sp.  
 Reptilia subord to sp.  
 Serpentes sp.  
     fam. to sp. (poisonous)

Loveridge, N. Y., 1945  
 Loveridge, N. Y., 1945  
 Burt, Burt, Bull. A.M.N.H. 63:461, 1932  
 Oshima, Tokyo, 1943

Testudines (marine)	Loveridge, N. Y., 1945
Aipysurus, Ephilophis, Emydocephalus diff.	McDowell, Zool. J. Linn. Soc. 48:333, 1969
Aturia (subgen.) sp.	McDowell, Trans. Zool. Soc. Lond. 32:189, 1972
Caretta subsp.	Deraniyagala, Spol. Zeyl. 24:95, 1945
Caretidae	Deraniyagala, Spol. Zeyl. 19:241, 1936
Chamaeleon sp.	Werner, Zool. Jb. 15:295, 1902
Disteria sp.	McDowell, Trans. Zool. Soc. Lond. 32:189, 1972
Emydocephalus, Ephilophis, Aipysurus diff.	McDowell, Zool. J. Linn. Soc. 48:333, 1969
Ephilophis, Aipysurus, Emydocephalus diff.	McDowell, Zool. J. Linn. Soc. 48:333, 1969
Hydrophidae gen., sp.	Wall, Mem. As. Soc. Bengal 2:169, 1909; Smith, London, 1926; Loveridge, N. Y., 1945; Gray, Zool. Misc. 1824, reprnt 1971
Hydrophiidae see Hydrophidae	
Hydrophiinae see Hydrophinae	
Hydrophinae (generic group) gen. to sp.	McDowell, Trans. Zool. Soc. Lond. 32:189, 1972
Hydrophis (group) gen.	McDowell, Trans. Zool. Soc. Lond. 32:189, 1972
Ornatus (by males and female) subsp.	Mittleman, Proc. Biol. Soc. Wash. 60:1, 1947
Lapemis sp.	McDowell, Trans. Zool. Soc. Lond. 32:189, 1972
Leioselasma (subgen.) sp.	McDowell, Trans. Zool. Soc. Lond. 32:189, 1972
Lygosoma (grouped by sp.) sect.	Smith, Rec. Ind. Mus. 39:213, 1937
Tribolonotus sp.	Cogger, Zool. Meded. 47:202, 1972

## GALAPAGOS ARCHIPELAGO

Dromicus sp.	VanDenburgh, Proc. Cal. Ac. Sci. 1:323, 1912
Dromicus dorsalis (geographical) diff.	VanDenburgh, Proc. Cal. Ac. Sci. 1:323, 1912
Gekkonidae sp.	VanDenburgh, Proc. Cal. Ac. Sci. 1:405, 1912
Phyllodactylus galapagoensis (geographical) diff.	VanDenburgh, Proc. Cal. Ac. Sci. 1:405, 1912
Testudo sp.	Gunther, Gig. Tort. 1877; VanDenburgh, Proc. Cal. Ac. Sci. 2:203, 1914
Tropidurus sp., subsp.	Heller, Proc. Wash. Ac. Sci. 5:39, 1903
sp.	VanDenburgh, Proc. Cal. Ac. Sci. 2:133, 1913

## MELANESIA

Testudines sp.	Vogt, Sitz. Freunde Berl. 9:410, 1911
Discodeles sp.	Boulenger, Ar. Mag. N. H. 1:236, 1918
Hylocara sp.	Boulenger, An. Mag. N. H. 1:236, 1918
Rana sp.	Boulenger, An. Mag. N. H. 1:236, 1918; Boulenger, Rec. Ind. Mus. 20:1, 1920
Typhlina subocularis group sp.	McDowell, J. Herp. 8:1, 1974

## Bismarck Archipelago

Amphibia sp.	VonKampen, Leiden, 1923
Reptilia fam. to sp.	Werner, Mitt. Zool. Mus. Berl. 1:1, 1900
Anura sp.	Werner, Mitt. Zool. Mus. Berl. 1:1, 1900
Sauria fam. to sp.	Werner, Mitt. Zool. Mus. Berl. 1:1, 1900
Serpentes fam. to sp.	Werner, Mitt. Zool. Mus. Berl. 1:1, 1900
Dendrophis sp.	Meise, Henning, Zool. Anz. 99:273, 1932
Enygrus sp.	Werner, Mitt. Zool. Mus. Berl. 1:132, 1900
Hyla sp.	Tyler, Zool. Verh. 96, 1968
Lygosoma subgen.	Werner, Mitt. Zool. Mus. Berl. 1:1, 1900
Macropophis see Natrix	
Natrix sp.	Werner, Sitz. Ak. Wien 134:45, 1925
Tropidonotus see Natrix	

## Fiji Islands

Cornufer sp.	Brown, Myers, Am. Mus. Nov. 1418, 1949; Gorham, Zool. Beitr. Berl. 11:381, 1965
Iguanidae gen., sp.	Boulenger, Cat. Liz., II, 1885
Platymantis sp.	Gorham, Zool. Beitr. Berl. 11:381, 1965

## Loyalty Islands

Bavayia c. cyclura, B. c. nauvagii diff.	Burt, Bull. A.M.N.H. 63:461, 1932, see also Boulenger, P.Z.S. Lond. 120, 1883
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## New Britain

Platymantis sp.	Gorham, Zool. Beitr. Berl. 11:381, 1965; Brown, Tyler, Proc. Biol. Soc. Wash. 81:69, 1968
Platymantis papuensis subsp.	Brown, Tyler, Proc. Biol. Soc. Wash. 81:69, 1968

## New Caledonia

Dendrophis sp.	Meise, Henning, Zool. Anz. 99:273, 1932
Gekkonidae gen.	Boulenger, P.Z.S. Lond. 116, 1883
Lepidodactylus sp.	Boulenger, P.Z.S. Lond. 116, 1883
Rhacodactylus sp.	Boulenger, P.Z.S. Lond. 116, 1883

## Solomon Islands

Amphibia sp. fam.	VanKampen, Leiden, 1923
	Brown, Bull. M.G.Z. 107:1, 1952

Anura fam.	Kinghorn, Rec. Austral. Mus. 16:123, 1928
Sauria fam. to sp.	Kinghorn, Rec. Austral. Mus. 16:123, 1928
Serpentes gen., sp.	Kinghorn, Rec. Austral. Mus. 16:123, 1928
Batrachylodes sp.	Brown, Parker, Breviora 346, 1970
Batrachylodes trossulus, vertebralis diff.	Brown, Myers, J. Wash. Ac. Sci. 39:379, 1949
Cornufer sp.	Brown, Myers, Am. Mus. Nov. 1418, 1949; Gorham, Zool. Beitr. Berl. 11:381, 1965; Brown, Breviora 218, 1965
Crocodylus see Crocodylus	
Crocodylus sp.	Ogilby, Proc. Roy. Soc. Queensl. 19:1, 1905
Crocodylus johnstonii, porosus, mindorensis, novaeguinea diff.	Schmidt, Field. Zool. 33:535, 1956
Emoia manni, nigra diff.	Brown, Herpetologica 4:159, 1948
Hoplocephalus sp.	Boulenger, P.Z.S. Lond. 30, 1890
Hyla sp.	Tyler, Zool. Verh. 96, 1968
Lipinia sp.	Boulenger, Trans. Zool. Soc. Lond. 12:35, 1890
Otosaurus sp. (grouped)	Smith, Rec. Ind. Mus. 39:213, 1937
Platymantis sp.	Gorham, Zool. Beitr. Berl. 11:381, 1965
papuensis subsp.	Brown, Tyler, Proc. Biol. Soc. Wash. 81:69, 1968
Pseudechis group gen.	McDowell, J. Zool. 161:145, 1970
Rana bufoniformis, opisthodon	diff. Barbour, Proc. N. Engl. Zool. Club 7:91, 1921
Ranidae gen., sp.	Kinghorn, Rec. Austral. Mus. 16:123, 1928
sp.	Brown, Bull. M.C.Z. 107, 1952
Tribolonus sp.	Burt, Burt, Bull. A.M.N.H. 63:461, 1932
Typhlina sp. groups	McDowell, J. Herp. 8:1, 1974
flaviventer group sp.	McDowell, J. Herp. 8:1, 1974
subocularis group sp.	McDowell, J. Herp. 8:1, 1974
Typhlopidae gen., sp. groups	McDowell, J. Herp. 8:1, 1974
Vermicella group gen.	McDowell, J. Zool. 161:145, 1970

#### MICRONESIA

Emoia sp.	Marianas Islands Brown, Proc. Cal. Ac. Sci. 39:105, 1972
Platymantis sp.	Palau Gorham, Zool. Beitr. Berl. 11:381, 1965

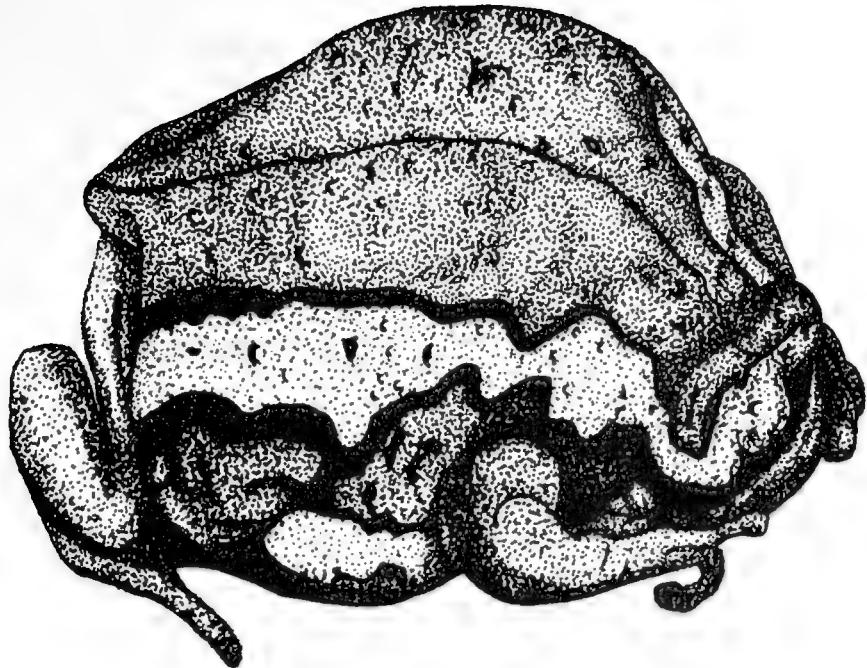
#### POLYNESIA

Amphibia sp.	Hawaiian Islands Oliver, Shaw, Zoologica 38:65, 1953
Reptilia sp.	Ibid.
Sauria fam.	Stejneger, Proc. U.S.N.M. 21:783, 1899
Serpentes sp.	Burt, Burt, Bull. A.M.N.H. 63:461, 1932
Gekkonidae sp.	Stejneger, Proc. U.S.N.M. 21:783, 1899
Scincidae sp.	Ibid.
Leioleposma see Leiolopesma	
Leiolopisma hawaiiensis, noctua diff.	Loveridge, Proc. Biol. Soc. Wash. 52:1, 1939

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Amphibia subord., gen., sp.	Taylor, Bur. Sci. Publ. 15, 1921
fam. to subsp.	Loveridge, N. Y., 1944
gen., sp.	Inger, Field. Zool. 33:181, 1944
Reptilia subord. to subsp.	Loveridge, N. Y., 1944
Gymnophiona fam. to sp.	Taylor, Lawrence, 1968
Sauria gen., sp.	Taylor, Bur. Sci. Publ. 17, 1922
Serpentes	Griffin, Phil. J. Sci. 6:253, 1911
fam. to sp.	Taylor, Bur. Sci. Publ. 16, 1922
Testudines subord., fam.	Taylor, Phil. J. Sci. 16:111, 1920
subord. to sp.	Taylor, Bur. Sci. Publ. 15, 1921
Boiga sp., subsp.	Leviton, Phil. J. Sci. 97:291, 1968 (1970)
dendrophila subsp.	Brongersma, Zool. Med. 17:161, 1934
Brachymeles sp.	Taylor, Phil. J. Sci. 12:267, 1917; Brown, Breviora 54, 1956; Brown, Rabor, Proc. Cal. Ac. Sci. 34:525, 1967
gracilis subsp.	Brown, Rabor, Proc. Cal. Ac. Sci. 34:525, 1967
schdenbergi subsp.	Brown, Rabor, Proc. Cal. Ac. Sci. 34:525, 1967
Bufonidae gen., sp.	Taylor, Phil. J. Sci. 16:213, 1920
Calamaria sp., subsp.	Inger, Marx, Field. Zool. 49:1, 1965
Caliophis calligaster subsp.	Leviton, Phil. J. Sci. 92:523, 1963 (1964)
Chaperina sp.	Taylor, Phil. J. Sci. 16:213, 1920
Chersydrus g. granulatus, g. luzonensis diff.	Loveridge, Proc. Biol. Soc. Wash. 51:209, 1938
Chrysopela sp., subsp.	Mertens, Senck. Biol. 49:191, 1968
Cornufer sp.	Taylor, Phil. J. Sci. 16:213, 1920; Gorham, Zool. Beitr. Berl. 11:381, 1965

Crocodylus mindorensis, porosus, novaguinea, johnstonii diff.	Schmidt, Field. Zool. 33:535, 1956
Cyclemys sp.	Taylor, Phil. J. Sci. 16:111, 1920
Cyclocorus sp., subsp.	Leviton, Phil. J. Sci. 94:519, 1965
Cyrtodactylus sp.	Inger, Sarawak Mus. J. 8:261, 1957
Dendrophis sp.	Meise, Henning, Zool. Anz. 99:273, 1932
Draco sp.	Henning, Temminckia 1:153, 1936
Dryophiops sp.	Leviton, Phil. J. Sci. 93:131, 1964
Elapidae (poisonous) gen. to subsp.	Leviton, Silliman J. 8:98, 1961
Emydinae gen.	Taylor, Phil. J. Sci. 16:111, 1920
Engystomidae see Microhylidae	
Geomysda sp.	Taylor, Phil. J. Sci. 16:111, 1920
Heosemys see Geomyda	
Holarchus sp.	Taylor, Phil. J. Sci. 13:359, 1918
Kalophrynxus sp.	Taylor, Phil. J. Sci. 16:213, 1920
Kaloula sp.	Taylor, Phil. J. Sci. 16:213, 1920
Lepidodactylus sp.	Taylor, Phil. J. Sci. 12:353, 1917
Liopeltis sp.	Leviton, Phil. J. Sci. 92:367, 1963 (1964)
Lipinia sp.	Boulenger, Trans. Zool. Soc. Lond. 12:35, 1890
Lycodon sp.	Leviton, Phil. J. Sci. 94:117, 1965
subcinctus subsp.	Leviton, Phil. J. Sci. 84:195, 1955
Lygosoma (sect.) sp.	Smith, Rec. Ind. Mus. 39:213, 1937
auriculatum subsp.	Brown, Akala, Occ. Pap. N.H.M. Stanford U. 3, 1956
pulchellum subsp.	Brown, Akala, Proc. Biol. Soc. Wash. 76:69, 1963
pulchellum, p. taylori diff.	Brown, Akala, Occ. Pap. N.H.M. Stanford U. 3, 1956
variegatum subsp.	Loveridge, Bull. M.C.Z. 101:303, 1948
Maticova sp., subsp.	Loveridge, Proc. Biol. Soc. Wash. 57:105, 1944
intestinalis subsp.	Leviton, Phil. J. Sci. 92:523, 1963 (1964)
Megalophrys sp.	Taylor, Phil. J. Sci. 16:213, 1920
Microhyla sp.	Vogt, Sitz. Freunde Berl. 3:222, 1913
Microhylidae gen.	Taylor, Phil. J. Sci. 16:213, 1920
Naja kaouthia subsp.	Deraniyagala, Spol. Zeyl. 29:41, 1960
naja subsp.	Leviton, Phil. J. Sci. 93:531, 1964
Oligodon sp.	Leviton, Phil. J. Sci. 91:459, 1962 (1963)
Otosaurus sp.	Smith, Rec. Ind. Mus. 39:213, 1937
Oxyrhabdium sp., subsp.	Leviton, Phil. J. Sci. 93:407, 1964
Philautus sp.	Taylor, Phil. J. Sci. 16:213, 1920
Platymantis sp.	Gorham, Zool. Beitr. 11:381, 1965
Platymantis c. corrugatus, papuensis diff.	Loveridge, Bull. M.C.Z. 101:303, 1948
Polypedates sp.	Taylor, Phil. J. Sci. 16:213, 1920
Pseudorabdium sp.	Taylor, Phil. J. Sci. 12:353, 1917; Leviton, Brown, Proc. Cal. Ac. Sci. 29:475, 1959
Pseudorhabdium see Pseudorabdion	
Rana sp.	Boulenger, Rec. Ind. Mus. 20:1, 1920
Ranidae gen.	Taylor, Phil. J. Sci. 16:213, 1920
Rhacophoridae gen., sp.	Ahl, Bull. Raffles Mus. 12:137, 1936
Staurois sp.	Boulenger, An. Mag. N.H. 1:372, 1918
larvae with suctorial disc	Kripalani, Rec. Ind. Mus. 50:359, 1953
Trimeresurus sp.	Maslin, Copeia 18, 1942; Leviton, Phil. J. Sci. 93:251, 1964
Trionychidae sp.	Gray, P.Z.S. Lond. 76, 1864
Typhlina multilineata group sp.	McDowell, J. Herp. 8:1, 1974
Varanus sp., subsp.	Mertens, Senck. Biol. 40:221, 1959
Viperidae (poisonous) gen. to subsp.	Leviton, Lilliman J. 8:98, 1961
	Mindanao
Ansonia sp., subsp.	Inger, Field. Zool. 39:473, 1960
	Palawan
Staurois sp.	Boulenger, An. Mag. N. H. 1:372, 1918



A BIBLIOGRAPHY OF ANURAN  
DEFENSIVE MECHANISMS

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SMITHSONIAN  
HERPETOLOGICAL INFORMATION  
SERVICE  
NO. 37

1976

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## INTRODUCTION

Although many aspects of the biology of frogs and toads are reasonably well known, antipredator mechanisms have been largely overlooked or superficially treated. To date, there has not been a review of anuran defensive mechanisms.

The purpose of this bibliography is twofold. One objective is to present a comprehensive list of published works dealing in any way with frog defensive mechanisms. To accomplish this, I have tried to review all references of frog antipredator mechanisms to verify that the reference is correct, to catalogue the different behaviors and mechanisms, and to list the species involved. Papers dealing with biochemistry and pharmacology of secretions have been excluded except where they pertain directly to antipredator or defensive mechanisms. I suggest those interested in biochemistry and pharmacology consult Low (1972) and Daly and Witkop (1971) for references on these subjects. At the end of the bibliography, there is a subject by reference listing.

The second objective of this bibliography is to stimulate research in the area of anuran antipredator mechanisms. Much remains to be learned about anuran behavior and a bibliography hopefully will provide stimulation as well as a reference source. I would appreciate receiving any additional information which may have been excluded.

Finally, I would like to thank the following people who provided needed information: George Zug, Ron Heyer, Bruce Bury, Steve Busack, Ron Crombie, and Ron Altig. Bart Kavruck provided the cover illustration of a Kaloula pulchra in its defensive posture.

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Altig, R. 1972. Defensive behavior in Rana areolata and Hyla avivoca. Quart. J. Fla. Acad. Sci. 35:212-216.

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Angel, F. 1947. Vie et moeurs des amphibiens. Payot, Paris.

Annandale, N. 1900. Observations on the habits and natural surroundings of insects made during the 'Skeat Expedition' to the Malay Peninsula, 1899-1900. Proc. Zool. Soc. London 1900:837-868.

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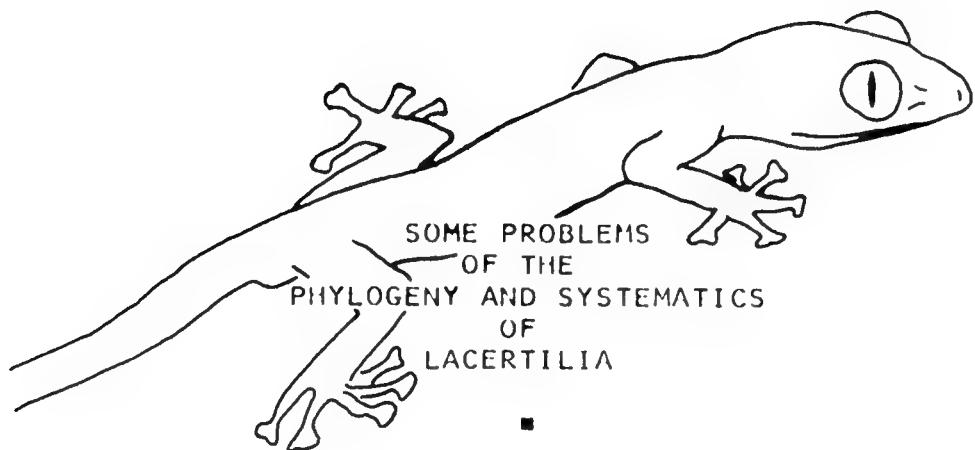
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2. flash colors	13. biting
3. eye camouflage	14. sound as defense
4. protective coloration (crypsis)	15. release of bladder water
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SOME PROBLEMS  
OF THE  
PHYLOGENY AND SYSTEMATICS  
OF  
LACERTILIA

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NASA

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SMITHSONIAN  
HERPETOLOGICAL INFORMATION  
SERVICE  
NO. 38

1976



## ABSTRACT

Sukhanov, V. B. SOME PROBLEMS OF THE PHYLOGENY AND SYSTEMATICS OF LACERTILIA (SEU SAURIA). *Zoologicheskiy Zhurnal*, vol. 40, no. 1, p. 73-83, 1961. The study of lizard musculature differentiates two strikingly different locomotor mechanisms: Scincogekkonomorphous and Iguanomorphous, both of which have tended to evolve in different directions. The locomotion of the Gekkota can also be divided into two types: Scincomorphous - crawling - and Iguanomorphous - where the body is held high above the substrate. The locomotion of gekkotan lizards, although having a more archaic appearance, shares some basic features with the locomotion of scincomorphans. Differing from the generally accepted lizard classification of Charles L. Camp (1923), the Gekkota and Scincomorpha are here suggested to be different branches of the same evolutionary lineage (division Scincogekkonomorpha). A second lineage of lizard evolution (division Iguanomorpha) possesses a greatly modified locomotor apparatus, perhaps due to their aboreality. The common ancestors of Scincogekkonomorpha and Iguanomorpha are postulated to have had a peculiar type of locomotion not found in its entirety in extant lizards: their bodies were raised high above the substrate, (as in Gekkota and Iguanomorpha), proximal parts of limbs moved nearly in a horizontal plane (as in Gekkota and Scincomorpha). The similarity of the Gekkota and Iguanomorpha results mainly from parallel or convergent evolution and not by close relationship.

## TEXT

The present article discusses one of the most controversial issues concerning the phylogeny of lizards - the relationships between the Iguanomorpha (families Iguanidae and Agamidae), the Scincomorpha and the Gekkota.<sup>1</sup>

We find one of the first attempts to classify lizards on a phylogenetic basis in several of E. D. Cope's works (1864, 1900).<sup>2</sup> At the base of his tree he placed the iguanids and agamids (*Pachyglossa*), assuming that gekkotano (*Nictisaura*) descended from them by degeneration. Cope felt that the relationship of the scincids and lacertids with *Pachyglossa* was more remote - through the Diploglossa (*Anguidae*, *Varanidae*, etc.).

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<sup>1</sup>Studied: Gekkonidae - *Gekko gecko*, *Teratoscincus scincus*, *Cyrtodactylus caspius*; Scincidae - *Eumeces schneideri*, *Mabuya* sp.; Lacertidae - *Lacerta lepida*, *L. agilis*; *Eremias grammica*, *E. arguta*, *E. velox*; Agamidae - *Agama agilis sanguinolenta*, *A. caucasica*, *Phrynocephalus mystaceus*, *P. interscalparis*, *P. reticulatus*, *P. helioscopus*.

<sup>2</sup>References to earlier works dealing with the system of reptiles can be found in Camp (1923).

Of special interest is the system suggested by M. Fürbringer (1900) based on a study of the musculature of the shoulder area of reptiles. Fürbringer and nearly all succeeding researchers considered the gekkonids to be the most primitive group of modern lizards. Close to them are the Scincidae and Gerrhosauridae. All three of these families have a relatively high number of primitive characteristics (Fürbringer, 1900, pp. 581-582). At the same time, Fürbringer indicated the relatively isolated position of the gekkonids among all lizards by a number of characters. The phylogenetic line passes from forms resembling the scincids through the Gerrhosauridae to the Lacertidae and, possibly, the Teiidae. Throughout this line, a number of specializations is noted in the musculature. Agamids and iguanids, closely related to each other, are considered as highly specialized, aberrant forms of Lacertilia, not at all related to the gekkonids. As will become evident later, Fürbringer's views are quite similar to our views with the exception, mainly, of the evaluation of the level of differentiation of the gekkonids.

Fürbringer's ideas were not developed further. Almost all succeeding authors (Gadow, 1901; Camp, 1923) held the opinion that the Gekkota were closely related to the Iguanomorpha but not to the Scincomorpha. This point of view, most completely stated by Camp (1923), is now the most widespread. His classification of lizards is based on a number of structural details of the skull, branchial skeleton, throat and abdominal muscles, hemipenes, scutellation, etc.

However, recently more and more data have accumulated in the literature contradicting the Camp's major conclusions.<sup>3</sup> The relationships between the higher taxonomic groups were, evidently, constructed by Camp on the basis of a preconceived idea which prevented him from observing a number of contradictions between the classification of lizards represented in linear form and the phylogenetic tree, shown greatly abridged in Fig. 1.

According to Camp, all lizards can be divided into two basic groups (divisions): Ascalabota and Autarchoglossa. The first group, including the Gekkonomorpha, Iguanomorpha and Chameleonomorpha, unlike the Autarchoglossa (which includes the Scincomorpha group of interest to us) is characterized by high number (over four) of transverse scale rows on each body segment, a similar structure of imbricate scales (if present) with broad free edges or uniform granular scales on all parts of the body, a primitive tongue structure, calyculate hemipenes, and a primitive hyoid suspension. All these characters undoubtedly indicate a definite, although not necessarily close, relationship between these families. However, other ascalabotan characters, which Camp used as the basis of his classification, are clearly secondary, for example, the absence of *m. rectus abdominis superficialis* (a character he even introduced into diagnosis) and absence of *os intermedium* in the wrist. Camp, referring to the embryological works of Maurer (1898), acknowledged that the presence of *m. rectus abdominis superficialis* is a primary characteristic, but nevertheless, felt it possible to derive the autarchoglossans possessing this muscle from the ascalabotans whose representatives have lost

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<sup>3</sup>Of greatest interest is the research of Malan (1944). He examined the structure of the olfactory and Jacobson's organ in the majority of lizard families. He believed it necessary to place the Gekkota between the Iguanomorpha and Scincomorpha and to combine them with the latter.

it. This is not the only contradiction in Camp's views.

In his phylogenetic tree, Camp located the Gekkota and Iguania on opposite sides of the tree. Although acknowledging the contradiction of the proposed kinship between the two, he referred to the inadequacies of a two-dimensional phylogenetic diagram, not realizing that the proximity of any groups in space reflects only convergence and not kinship. Thus, by suggesting the possibility of a secondary relationship between the Gekkota and Iguania, Camp undermined his own ideas.

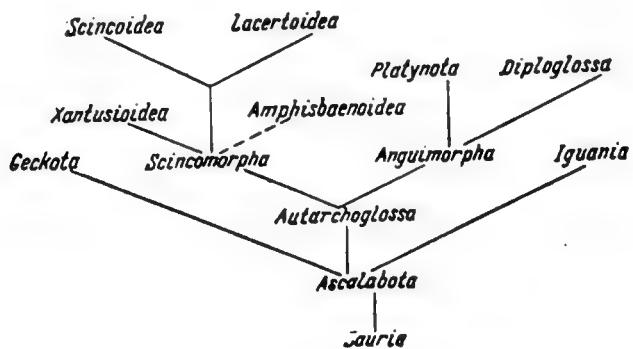


Figure 1. Phylogenetic tree of Lacertilia (after Camp)

All the differences between the Ascalabota and the Autarchoglossa, according to Camp, are due to adaptations to different habitats: the former has a strong tendency toward an arboreal mode of life, the latter, never having been adapted to climbing, lives on the ground, often with an undulatory specialization (reduction of limbs, snake-like body) in turn never observed in Ascalabota. This clearly contradicts the large number of shared characters of Gekkota and Scincomorpha which thus cannot be explained by convergence, as the habitats of these animals are different and contrarily suggests the similarity between Gekkota and Iguanomorpha may be secondary.

It seems to us that one of the main defects of Camp's classification is its dependency on static characters, characters whose developmental history has not been studied. In those cases where a character, such as *m. rectus abdominis superficialis*, has its own history Camp's classification begins to suffer from its own contradictions.

Before we present original material we must note that paleontology still plays a very small role in the unraveling of the phylogeny of lizards, partly because of the extremely poor knowledge of the comparative osteology of modern forms.

The main role in constructing the phylogeny of Lacertilia at present can only be played by comparative morphology and to a lesser degree by comparative embryology, thus all conclusions will be to some degree hypo-

theoretical. However, paleontology can now throw some light on the time of appearance of large groups of lizards. Iguanidae and Agamidae are found in the Upper Cretaceous (Hoffstetter, 1955; Huene, 1956) and according to some data in the Upper Jurassic (*Bavarisaurus* - Hoffstetter, 1953). Well differentiated representative of the Gekkonidae, Scincidae and Lacertidae are found only in the Upper Eocene. Some Upper Jurassic and Cretaceous taxa (Hoffstetter, 1953 - *Yabeinosaurus*, *Broilisaurus*) cannot currently be differentiated from the Gekkota and Scincomorpha. This indicates the possibility of the Iguanomorpha diverging early from the common trunk of lizards, perhaps in Upper Jurassic. But differentiation of the main evolutionary line of Lacertilia into Gekkota proper and Scincomorpha could hardly have occurred earlier than the Upper Cretaceous.

A study of the musculature of the locomotor apparatus of lizards shows that the Gekkota and Scincomorpha share a whole series of relatively primitive characters.

The clavicle in the majority of the Gekkonidae, Scincidae and Lacertidae is broad and perforated ventrally by a large fenestra. In the higher Scincomorpha, the clavicle becomes hook shaped because of the reduction. In the Iguania a hook-shaped clavicle is known in only three genera (*Basiliscus*, *Laemantus* - Boulenger, 1855), *Lyriocephalus* (Siebenrock, 1895); all other

forms have a rod-shaped clavicle. Evidently, in the higher Scincomorpha and all Iguania there is a parallel reduction of clavicles, much further advanced in the latter group, perhaps because of the greater expanse of time (Upper Jurassic to Recent). The reduction of clavicles in Scincomorpha may have begun relatively recently. In connection with the clavicular changes, there are changes in the m. deltoideus. In all representatives of the scinco-gekkonomorphic evolutionary line, some muscle fibers originate from the outer surface of the clavicle (Fig. 2, A). They extend anteriad round the front of the clavicle, join with fibers originating from the clavicle's inner surface, and extend posteriad adjacent to the fibers originating from the scapula. In the agamids (Fig. 2, B) the muscle fibers originate on the outer surface of the rod-shaped clavicle and extend directly to the scapula without curving in front of the clavicle.

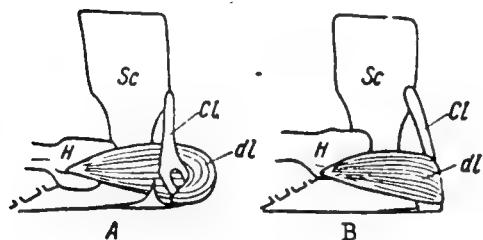


Figure 2. Illustration of the position of the m. deltoideus to the clavicle in lizards.

A - *Lacerta ocellata* - this type of deltoideus origin from the clavicle occurs in Gekkonidae, Scincidae and Lacertidae; B - *Phrynocephalus mystaceus* - this type is common in iguanids and agamids. Cl - clavicula, H - humerus, Sc - scapula, dl - m. deltoideus.

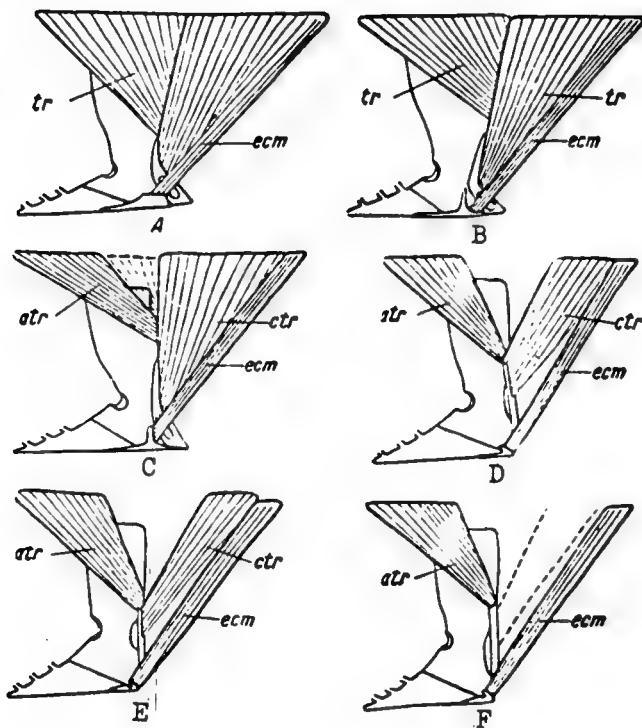


Figure 3. The development and differentiation of the *m. trapezius* and *m. episterno-cleido-mastoideus* in various lizards

A - *Teratoscincus scincus*, almost no traces of differentiation of either muscle. B - *Eremias arguta*: in *m. trapezius* division into two parts - one whose fibers are attached to the acromial part of the scapula and the second to the clavicle. C - *Eremias grammica*: both parts of *m. trapezius* well separated; the more cranial section of the posterior part (*m. acromio-trapezius*) has lost muscle fibers and become aponeurotic. D - *Phrynocephalus mystaceus*: *m. episterno-cleido-mastoideus* completely divided from *m. trapezius*, which in turn is divided into two independent parts - *m. acromio-trapezius* and *m. clavotrapezius*. E - *Phrynocephalus interscapularis*: reduction noted in *m. clavotrapezius*. F - *Phrynocephalus helioscopus*: *m. clavotrapezius* has completely lost its muscle fibers, replaced by aponeurosis, *atr* - *m. acromiotrapezius*; *ctr* - *m. clavotrapezius*, *ecm* - *m. episterno-cleido-mastoideus*, *tr* - *m. trapezius*.

The m. trapezius of gekkonids and scincids is not separated from the m. episterno-cleido-mastoideus (Fig. 3, A) nor divided into two parts, which is typical of the agamids (Fig. 3, D) ("acromiotrapezius," attached to the acromial part of the scapula, and "clavotrapezius," ending at the clavicle). In Iguanomorpha, the trapezius muscles (Fig. 3, D, E, F) are separate from the m. episterno-cleido-mastoideus and show an obvious tendency toward reduction, even to complete loss of the "clavotrapezius" (Fig. 3, F). In the lacertids, on the other hand, the m. episterno-cleido-mastoideus is very weakly divided; if the m. trapezius is reduced, it is at the expense of the posterior acromial part (Fig. 3, B, C). Thus, divergent trends are seen in the development of the m. trapezius in the lacertids and agamids.

The changes occurring in the m. anconeus are interesting. In the scincids and lacertids (Fig. 4, A) the muscle has a long "scapular" head closely connected at its origin with lig. scapulo-humeralis lateralis and lig. axillaris. In the gekkonids, the lig. axillaris is reduced,<sup>4</sup> but the primitive scapular head of the m. anconeus is preserved (see Fig. 7, C). In all Iguanomorpha (Fig. 4, B) there are two long heads: scapular and coracoid.<sup>5</sup> It is possible that the heads were formed by the divergence of fibers of the primitive "scapular" head by lig. axillaris. The scapular head, still retaining as its origin the primitive connection with lig. scapulo-humeralis lateralis, loses it in the course of evolution of Iguanomorpha. Thus, the morphological trends of the m. anconeus of the Gekkota and Iguanomorpha are contradictory.

The m. supracoracoideus of gekkonids, scincids, and lacertids is relatively small; the site of its origin is limited to the anterior edge of the bony coracoid (Fig. 5, A). A different muscle is seen in the Iguanomorpha. Agama has a much larger muscle: its origin occupies not only the bony part of the coracoid, but also its cartilaginous part, the so-called "epicoracoideum," circumscribing the coraco-scapular fenestra and even a small part of the scapula (Fig. 5, B). In Phrynocephalus, (Fig. 5, C), the cartilaginous "epicoracoideum" is reduced. As a result, the muscle is divided into two parts - a coracoid part similar in volume and form to the m. supracoracoideus of gekkonids and scincids and a scapular part of increased size; in comparison with Agama, its fibers occupy a larger area

<sup>4</sup>In the relatively primitive *Gekko japonicus* (Sanders, 1870) a remnant of this connection is evidently still retained in the form of a tendon leading from the posterior angle of the coracoid to the m. anconeus. But it does not join with the lig. sterno-scapularis internum.

<sup>5</sup>The study of this taxon led to the incorrect idea that the primitive state of the m. anconeus of all reptiles is quadripalpal: two long and two short heads (Romer, 1922).

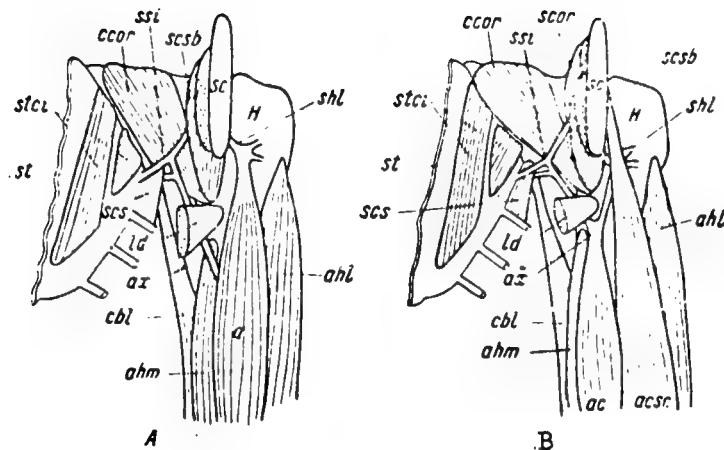


Figure 4. Two structural types of the m. anconeus in lizards.

A - *Lacerta lepida* has only one long "scapular" head originating from lig. axillaris and lig. scapulo-humeralis lateralis; this structural type of m. anconeus is noted in all Scincogekkonomorpha. B - *Phrynocephalus mystaceus*: primitive single long head of m. anconeus divided into two - the coracoid originating from lig. axillaris and the scapular which at its origin is completely separate from lig. axillaris and lig. scapulo-humeralis lateralis. There are two long heads of m. anconeus in all representatives of the Iguanomorphic line of evolution of lizards. St - sternum, a - long head of m. anconeus in Scincogekkonomorpha, ac - m. anconeus, caput coracoideum, acsc - m. anconeus, caput scapularis - ahl - m. anconeus, caput humerale laterale; ahm - m. anconeus, caput humerale mediale; ax - lig. axillaris, cbl - m. coraco-brachialis longus, ccor - coracoid part of coracoid head of m. subcoracoscapularis, m - latissimus dorsi, scsb - spacular head, m. subcoracoscapularis; scor - spacular part of coracoid head, m. subcoracoscapularis, ssc - m. sterno-costoscapularis, shl - lig. sterno-humeralis lateralis, ssi - lig. sternoscapularis internum, stci - mm. sterno-coracoidei inertni. Other symbols explained in Figure 1.

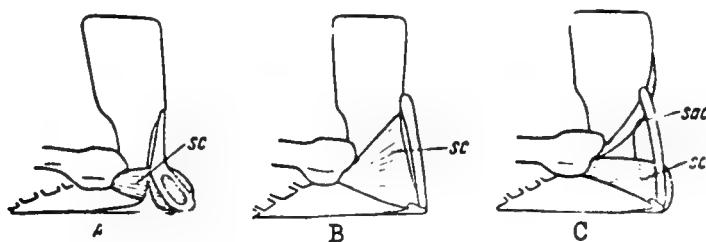


Figure 5. Three basic structural types of the m. supracoracoideus

A - *Lacerta lepida*, B - *Agama caucasica*, C - *Phrynocephalus mystaceus*; sac - m. supracoracoideus accessorius, sc - m. supracoracoideus.

of the scapula and part of the clavicle and extends between these bones to the inner side of the suprascapular cartilage.<sup>6</sup> It is still difficult to decide in which (Gekkota, Scincomorpha, or Agamidae) the *m. supracoracoideus* show primitive condition. If the agamid condition is primitive, then we see contradictory trends in the direction of muscle evolution in the advanced Agamidae and Scincogekkonomorpha<sup>7</sup>: in the first - separation of the muscle into two parts and formation of *m. supracoracoideus accessorius*, in the second - retention of an unicarpal muscle. If the condition in the gekkonids, scincids, and lacertids is more primitive, then we must speak of its retention in the entire scincogekkonomorphic evolutionary line and continual differentiation in the Iguanomorpha.

The *m. biceps* of the gekkonids and scincids has only a fleshy origin ("proximal muscle belly"). In some advanced Scincomorpha (*Lacerta*, *Ameiva*, *Tupinambis* - Fürbringer, 1876, 1900) there is slight reduction of the proximal belly - there is a narrow tendonous part along its edge. The complete reduction of the proximal belly of *m. biceps* occurs in the advanced Iguanomorpha (there are numerous intermediate stages - Camp, 1923). Thus, again we see parallel development in the advanced Scincomorpha and Iguanomorpha but reduction begins much earlier in the latter group.<sup>8</sup>

The presence of a primitive radial complex of forearm extensors (mm. extensores antebrachii et carpi radialis), such as in tortoises (Fig. 6, A) is very typical of the gekkonids, scincids, and lacertids. In this muscle complex some fibers ("m. tractor radii" - Haines, 1939) are supplied by a branch of the flexor nerve (*n. brachialis longus inferior*), perforating the *m. biceps* and *m. brachialis*. A foramen ectepicondyloideus (Ribbing, 1907, 1938) for the extensor nerve, *n. radialis* occurs in all these families supplying the greater part of the extensor radial complex. In all Iguanomorpha (Fig. 6, B) this muscle complex is greatly reduced; the "m. tractor radii" also loses its flexor innervation. The foramen ectepicondyloideus also disappears.

The flexor ulnar complex of the forearm is greatly reduced in the Iguanomorpha: there is a progressive reduction of *m. fl. antebrachii ulnaris* (still observed in two iguanid genera *Ctenosaura* and *Sceloporus* - Straus, 1942) to its complete loss in advanced forms (*Agama*, *Phrynocephalus*). In the entire Scincogekkonomorphic line, this muscle evidently does not undergo reduction. Thus, a distinct trend can be noted in the Iguanomorpha toward enlargement of the antebrachial musculature.

<sup>6</sup>We called the scapular part of the *m. supracoracoideus* of the advanced agamids the *m. supracoracoideus accessorius*.

<sup>7</sup>Scincogekkonomorpha here refers to a taxon at a division level combining Gekkota and Scincomorpha. For contrast, we suggest the name Iguanomorpha for the group including Iguanidae, Agamidae and Chamaeleontidae.

<sup>8</sup>A difference in times of reduction can also be assumed.

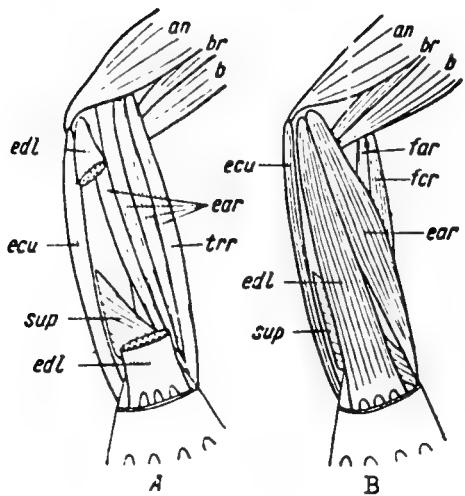


Figure 6. Two structural types of the mm. extensores antebrachii et carpi radialis

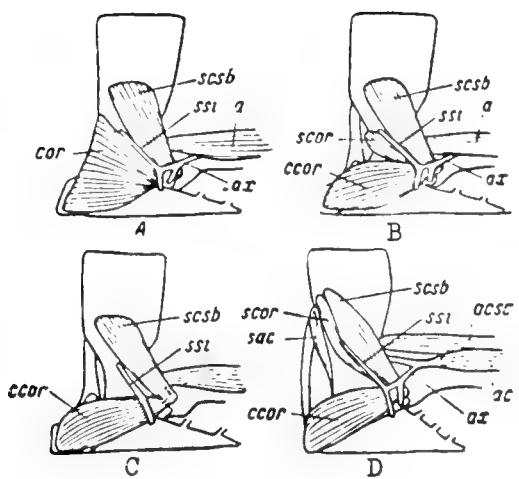
A - *Lacerta lepida*: primitive condition observed in the entire Scincomorpho-gekkonomorphic line; muscle very strongly developed, superficially differentiated into several heads; some fibers - m. tractor radii - supplied with flexor but not extensor nerves. B - *Phrynocephalus mystaceus*; muscle relatively weakly developed, no differentiation, innervated only by extensor nerves; this is observed in all Iguanomorphia. an - m. anconeus, b - m. biceps, br - m. brachialis inferior, edl - m. extensor digitorum communis, ear - mm. extensores antebrachii et carpi radialis, ecu - m. extensor carpi ulnaris, far - m. flexor antebrachii radialis, fcr - m. flexor carpi radialis, sup - m. supinator manus, trr - m. tractor radii

A number of primitive characters relating the Gekkota and Scincomorpha is also observed in the musculature of hindlimbs: enlargement of the m. pubo-ischio-tibialis (in agamids, the muscle is much smaller, particularly the first part which disappears completely in *Phrynocephalus*); the origin of the inner head of m. gastrocnemius arises only from the tibia (in agamids, the muscle also originates from the femur; in gekkonids, on the other hand, there is a distinct trend toward the shortening of the inner head of the gastrocnemius to its complete reduction in the Caspian gecko); the m. fl. tibialis internus I is attached to both the tibia and the femur.

To supplement the aforementioned primitive characters shared by the Gekkota and Scincomorpha, we can add the primitive nature of the throat muscles, osteoderm, unfused medial skull elements (Camp, 1923), lungs (Milani, 1894), teeth, digestive system, etc. A number of these characters shared by Gekkota and Scincomorpha remain poorly studied, which makes it impossible to determine the relative degree of their evolutionary development. These are: morphology of the m. fl. tibialis internus I in comparison to the m. fl. tibialis internus II; size of the m. ilio-fibularis; relatively weak development of the outer head of the m. femoro-tibialis; origin of the accessory head of the m. il. digitorum longus from the fibula and, according to Camp, relatively greater modification of the postfrontal than the postorbital bone.

It is extremely important to note that the Gekkota and Scincomorpha are related not only by comparatively primitive characteristics, but also by a number of derived characteristics, which

Figure 7. Structure of m. subcoraco-scapularis in various lizard families



A - Scincidae (*Mabuya* sp); coracoid head of muscle very large. B - Lacertidae (*Eremias arguta*); with the disappearance of "epicoracoid" the coracoid head divided into two parts. C - Gekkonidae (*Gekko gecko*); scapular part of coracoid head completely reduced; also absence of lig. axillaris. D - Agamidae (*Phrynocephalus mystaceus*); scapular part of coracoid head very well developed; origin migrated further back, up to the scapular head proper of m. subcoracoscapularis, from which it is separated only by lig. sternoscapularis internum; cor - coracoid head of m. subcoraco-scapularis. Other symbols same as Fig. 3 and 4.

evolve in the same direction in all Scincogekkonomorpha. Perhaps, this indicates that gekkonids, scincids, and lacertids, until their divergence into separate families, subfamilies and sections, evolved for a long time (possibly from Upper Jurassic to Upper Cretaceous) in the same Scinco-gekkonomorphic lineage.

It is in gekkonids, scincids, and lacertids that we note complex formations such as the crossing of muscle fibers in the mm. pubo-ischio-femoralis internus et externus (Sukhanov, 1957). Still small in *Gekko gecko*, the m. ext. iliotibialis has enlarged; the m. fl. tibialis internus I is divided into several heads (not yet separated in *Gekko* and *Eumeces*, two heads in *Lacerta agilis*, three in *L. lepida*, four in *Teratoscincus* and *Cyrtodactylus*).

The changes in the m. subcoracoscapularis are extremely significant. In the scincids, the coracoid head of the muscle is very large (Fig. 7, A); it originates from the inner side of the coracoid, the "epicoracoid," and the scapula. This continuous muscle layer is triangular in shape and is separated from the scapular head by the lig. sterno-scapularis internum. The scapular head is relatively small and its fibers do not reach the outer side of the scapula. In the lacertids (Fig. 7, B) the coracoid head is divided into two parts - the scapular, partially reduced, and the coracoid. The scapular part has complete disappearance in gekkonids (Fig. 7, C). There is also partial reduction of the coracoid part proper from lacertids to gekkonids (origin of muscle occupies only the bony part of the coracoid). In the agamids studied, separation of the coracoid head into two parts was also noted but only the coracoid part is relatively reduced in size. The scapular part is, apparently enlarged and forms the anterior inner scapular head of the m. subcoracoscapularis (Fig. 6, D). In the Iguanomorpha, there is also a

progressive enlargement of the external scapular head of this muscle.

Several analogous changes are observed in the *m. scapulo-humeralis anterior*. In scincids, the muscle in the form of a single (not separated into heads) mass originates from the outer side of the anterior part of the coracoid, the "epicoracoid," and a small part of the scapula. In the lacertids, there is a separation of the muscle into a coracoid and a slightly smaller scapular heads. In the gekkonids, the latter is completely reduced. A similar trend, evidently parallel, also occurs in the Iguanomorpha. The muscle in the agamids is quite similar to that of the scincids and the lacertids; it was weakly divided into two parts. In the advanced agamids (*Phrynocephalus*), the scapular head of the *m. scapulo-humeralis anterior* is greatly reduced, although not complete, resembling the condition observed in gekkonids.

Noting the strong similarity between the Gekkota and the Scincomorpha, we must also mention a number of characteristics which permit the differentiation of the gekkonids from other lizards (within the Scincogekkonomorpha division), unite the entire group of Gekkota, and perhaps, are slightly more advanced than in the Scincomorpha. Thus, in Gekkota, there is a reduction of the *lig. axillaris*; part of the fibers of the *m. dorsalis scapulae* spread to the inner side of the suprascapular tendon; the scapular head of the *m. scapulo-humeralis anterior* and the scapular part of the coracoid head of the *m. subcoracoscapularis* completely disappear; there is a crossing in the *m. pectoralis* and in the *m. pubo-ischio-femoralis internus IV* (Sukhanov, 1957); the inner head of the *m. femoro-tibialis* merges with its outer head; there is a progressive reduction of the inner head of the *m. gastrocnemius* to its complete reduction in the Caspian gecko; in several forms, merging of the *m. fl. tibialis internus II* and *m. fl. tibialis externus* is observed. Significant changes occur in the eyes (Underwood, 1951, 1954), and the cranial arches are reduced, etc. There is the opinion that the amphicoelous vertebrae of the gekkonids are a secondary derived condition (Underwood, 1954), but at the same time there are the facts, presented previously which indicate the extreme primitiveness of the Gekkota. Thus, this question must remain open.

From the aforementioned data, we can clearly see that there are two sharply differing types of muscle structure in the locomotor apparatus of the lizards - the Scincogekkonomorpha and the Iguanomorpha. It is interesting that the musculature of the pectoral girdle and forelimbs in the first group is definitely primitive, but that of the pelvis and hindlimbs is more advanced. In the Iguanomorpha, the relation is reversed - muscles of the pelvis are more primitive, but in the pectoral girdle there are very many specializations.

We are still far from completely understanding the role of the individual muscles or even their complexes in locomotion. The possibility of muscles of the locomotor apparatus being included in performance of functions not directly connected with locomotion (digging, displaying, etc.) makes it even harder to understand their evolution. Nevertheless, it is remarkable that we still have two basic classes of locomotion in lizards - crawling in the scincomorpha and elevated body posture during movement in the Iguanomorpha. Each type of locomotion influences all aspects of the animal (we

can recall a seemingly distinct difference in body and limb proportions).

The locomotion of Gekkota outwardly resembles that of the Iguanomorpha (elevated body posture). But their upper arms move in a horizontal plane, as in the Scincomorpha, which undoubtedly is closer to the original locomotor pattern. In the Iguanomorpha, this plane is more vertical (perhaps explaining the curious similarity between such specialized forms as *Phrynocephalus* and mammals - the formation of a prototype of the m. supraspinatus in the form of the m. supracoracoideus accessorius (Fig. 5, C). The locomotion of terrestrial gekkonids is much slower and clumsier than that of the Iguanomorpha. This is shown both by direct measurements of the speed of the scincogekkonomorphans *Phrynocephalus mystaceus* and *Ph. reticulatus*, and the analysis of their tracks.<sup>9</sup>

The similar movement of forelimbs of the Gekkota and Scincomorpha may be due to the similarity in musculature. But the striking similar musculature of the pelvis and thigh of these groups is still a mystery. The crossing of the muscle fibers of the m. pubo-ischio-femoralis internus in forms with relatively short limbs (Scincomorpha) may be due to the necessity of increasing the stride during locomotion. But the hindlimbs of the Gekkota, although shorter than those of Iguanomorpha, are, nevertheless, much longer than those of the Scincomorpha and the crossing in several representatives is complex and also involves the m. pubo-ischio-femoralis externus. Moreover, according to some data, parallel crossing may appear in the Gekkota and the Scincomorpha (difference in innervation - Sukhanov, 1957).

<sup>9</sup>The usual speed of the Scincogekkonomorpha does not exceed 1.0 m/sec. Maximum ground speed of a gecko escaping from an enemy is 1.2 m/sec. Tracks left in the sand at that speed differ from ordinary ones in that the imprint of the hindfoot is a round funnel. No imprints of individual toes remain. The track of the forefoot retains imprints of toes. It is interesting that this type of track is never seen under normal conditions even in the same kind of gecko during its nocturnal activity, i.e., it is evident that the ordinary demands of his movement are completely satisfied by a comparatively slow speed (to 1.0 m/sec). *Phrynocephalus mystaceus* and *P. reticulatus* show significantly greater variation in speeds in their normal "behavior." Tracks with visible impressions of the toes correspond in these two forms to speed not exceeding 1.0-1.2 m/sec. At higher speed the tracks, aside from a natural increase in the stride, change their character sharply. Both fore- and hindfeet now leave only simple funnels in the sand. Maximum noted speed for *P. mystaceus* running from a enemy is 2.8 m/sec, for *P. reticulatus* 4.0 m/sec. The usual speed of rapid running in the first varies from 1.0 to 2.5 m/sec; in the second from 1.9 to 3.0 m/sec. Such speeds are often observed under natural conditions.

It seems to us that the common ancestors of the Scincogekkonomorpha and the Iguanomorpha had a special type of locomotion, not observed in its entirety in any modern groups of lizards: they had terrestrial mode of life, while moving the body was held high above the substrate (as in the Iguanomorpha and the Gekkota), the proximal segments of the limbs moved in an almost horizontal plane (as in Gekkota and Scincomorpha). Locomotion was slow and clumsy. The body and tail of these animals were relatively short, but the limbs comparatively long. Individual features of this original pattern of locomotion have been largely retained in extant terrestrial geckos. As a whole the Gekkota underwent specializations in parallel with the Iguanomorpha toward adaptation for climbing (an arboreal or saxicolous form of life). All Iguanomorpha in the course of evolution probably passed through an arboreal stage and only secondarily gave rise to desert terrestrial forms such as *Sceloporus* and *Phrynocephalus*. As a result of this their pectoral girdle and forelimbs were strongly modified.

The method of movement of Scincomorpha is, perhaps, the most biologically progressive among the modern lizards and arises from a locomotion pattern similar to that which is observed in terrestrial geckos.

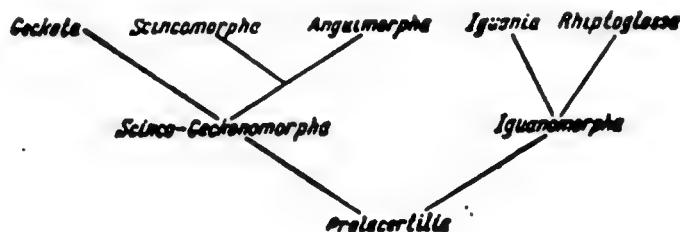


Figure 8. Phylogenetic tree (after Camp, modified by V. B. Sukhanov)

It has already been said that the above facts do not agree with Camp's classification of lizards. We feel it is necessary to modify his phylogenetic tree (Fig. 8). Dividing the lizards into the Ascalabota and the Autarchoglossa must be considered wholly artificial. The Gekkota and Scincomorpha are different branches of one evolutionary lineage (division **Scincogekkonomorpha**): their common ancestors possibly passed through a long evolutionary path separate from that of the Iguanomorpha (division Iguanomorpha) which represents a second evolutionary lineage of lizards. Division of the common trunk of lizards into these two groups can, probably, be dated to the Upper Jurassic and the divergency of the Gekkota and Scincomorpha to the Upper Cretaceous or Paleocene. The similarity between the Gekkonomorpha and the Iguanomorpha results principally from parallel or convergent evolution and not to close kinship.

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#### EDITORS' NOTES

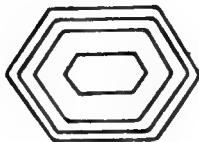
The preceding translation is not a direct or literate one. We believed it necessary to take the translation by Scitran and modified the choice of words and phraseology to conform with current scientific English. We consistently changed the lizard group names to anglicized familial names, e.g., iguanes to iguanids, geckos to gekkonids. Similarly we changed Sukhanov's Scinco-Geckonomorpha to Scincogekkonomorpha and other such spellings to conform to current taxonomic usage. Scientific names are not italicized or underlined in order to keep the single spaced typewritten copy uncluttered and, thus, more readable.

We wish to thank A. G. Kluge for bringing this important study on lizard classification to our attention and G. Jacobs for its translation.

S. Moody and G. Zug



SUPPLEMENT  
TO THE  
BIBLIOGRAPHY  
OF THE  
NORTH AMERICAN LAND TORTOISES  
(GENUS GOPHERUS)



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In remembrance  
of  
Richard Archbold  
(1907-1976)

SMITHSONIAN  
HERPETOLOGICAL INFORMATION  
SERVICE  
NO. 39

1977

Division of Reptiles & Amphibians  
National Museum of Natural History  
Washington, DC 20560

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## INTRODUCTION

Additional references have come to my attention since circulation of the "Bibliography of the North American land tortoises (genus Gopherus)" in 1975 (U. S. Dep. Int., Spec. Sci. Rep. - Wildl. No. 190, 60 pp.). The following sources have been searched for references on tortoises of the genus Gopherus: Biological Abstracts, through Vol. 62 (1976)\* BioResearch Index (including BioResearch Titles), through Vol. 12 (1976)\* Chelonia, through Vol. 3, No. 2 (1976) Copeia, through 1976, No. 3 Herpetologica, through Vol. 32, No. 3 (1976) International Turtle & Tortoise Society Journal, through Vol. 7, No. 2 (1973) Journal of Herpetology, through Vol. 10 (1976) The Zoological Record, through Vol. 109 (1972).

This supplement includes papers containing information on behavior and ecology of North American tortoises; as in the Bibliography of 1975, no thorough effort has been made to include papers dealing strictly with morphology, taxonomy, fossil forms, or distribution. Each numbered item in the bibliography has been read and its contents indexed by subject. The references cited in each article have also been searched (four exceptions noted on page 9) and included when appropriate. A copy of each numbered item listed is on file in the Library of Archbold Biological Station, Lake Placid, Florida.

A subject index to the contents of numbered items in the bibliography is provided on pages 9-18. Relevant page numbers are given in parentheses following reference numbers. Reference numbers 500 and below in the index designate items in the Bibliography of 1975. The index section formerly called "Thermoregulation" has been split into several categories; relevant references, including all of those from that section in the earlier work, are included under appropriate headings in the new section.

It is hoped that this supplement will serve as a useful addendum to the Bibliography of 1975.

**Acknowledgments:** Support for this work was provided by Archbold Expeditions of The American Museum of Natural History. I thank J. N. Layne and Richard Archbold for their help and encouragement and R. B. Bury and G. R. Zug for constructive advice. For various additions to the bibliography, I also thank A. F. Czajka, F. E. Lohrer, M. N. McCauley, R. W. McDiarmid, A. Rhodin, and N. Wilson.

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Possible sources of additional references suggest themselves:

a) physiological journals, particularly those in which the scientific names of experimental subjects do not appear in titles or indices; b) local periodicals of narrow circulation and certain popular periodicals of natural history; c) literature on the burrow associates of Gopherus. A search of literature on some of the organisms associated with the burrows of G. polyphemus, for example, would yield records not included here.

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Gopherus agassizii: 620(8). G. polyphemus: 587(28).

## VISION

Gopherus spp.: 539. G. agassizii: 638(8, 9). G. berlandieri: 506. G. polyphemus: 539; 599(384).

## OLFACTION

Gopherus spp.: 452; 523; 539; 624. G. agassizii: 341; 539(36); 544; 591(15, 31, 62, 76-78). G. berlandieri: 341; 512(842-843); 544; 591(15, 78). G. polyphemus: 539; 591(15); 599(384); 626.

## AUDITION

Gopherus spp.: 523; 591. G. agassizii: 509; 591. G. berlandieri: 591. G. flavomarginatus: 539(41); 595(16, 18). G. polyphemus: 591; 605.

## TACTILITY

Gopherus agassizii: 571(144). G. polyphemus: 610(184).

## INTELLIGENCE

Gopherus agassizii: 609; 619(3). G. polyphemus: 605.

## TEMPERAMENT AND DEFENSE REACTIONS

Gopherus spp.: 529(71). Gopherus sp.: 570(29). G. agassizii: 505; 531(9); 572(19, 20); 591; 600; 620(6); 634(43). G. berlandieri: 591; 634(43). G. flavomarginatus: 595(14, 16). G. polyphemus: 358(249, 254, Pl. 86); 501(26); 502; 513(5); 524(92); 537; 539; 584(174); 585(306, 308); 591; 605; 630(172).

## VOCALIZATION

General: 599(384). Gopherus spp.: 591. G. agassizii: 523; 539(58); 572(20); 591; 640. G. berlandieri: 591. G. polyphemus: 539; 591.

## AGONISTIC BEHAVIOR

Gopherus spp.: 523; 539; 624. G. agassizii: 278(62-63); 523; 530(205); 539(54, 55, 57, 58); 552(7); 571(139); 572(20); 591; 638(9-10); 640. G. berlandieri: 529(72); 539(54, 55, 57, 58); 558(164); 591; 606(453). G. flavomarginatus: 539(49, 54, 58); 591(15); 595(16-17). G. polyphemus: 539; 540; 545.

## INTERACTIONS WITH OTHER SPECIES IN CAPTIVITY

Gopherus polyphemus: 605.

## AGE AT APPEARANCE OF SECONDARY SEX CHARACTERS

Gopherus agassizii: 539; 571; 624. G. berlandieri: 624.

## AGE AT SEXUAL MATURITY

General: 571(139). Gopherus agassizii: 272(6); 303(174); 525; 528(6); 532(19); 539(44); 571; 599(433); 624. G. berlandieri: 539(44); 624. G. flavomarginatus: 539(45). G. polyphemus: 539.

## SEX RATIOS

Gopherus berlandieri: 606(450-451). G. polyphemus: 539; 541; 545.

## BREEDING SEASON

Gopherus agassizii: 539(32-33); 572(20); 638(8). G. berlandieri: 452(11, 18-19, 30). G. polyphemus: 539; 540; 545.

## COURTSHIP AND COPULATION (courtship behavior, head-bobbing, chin glands)

General: 523. Gopherus spp.: 507(50, 64); 539; 624. Gopherus sp.: 554(21). G. agassizii: 530(205); 539; 544; 552(7); 572(20); 591; 599(384); 632(73-74); 638(8, 11-12). G. berlandieri: 539; 591(9, 15). G. flavomarginatus: 539; 591(15); 595(17). G. polyphemus: 124(330, 338, 339); 537; 539; 540; 543; 544; 545; 585(260, 308); 591(9, 15); 599(382-384).

## NESTING SEASON

Gopherus agassizii: 531(8); 543; 571(140); 620(6, 7, 8). G. berlandieri: 543. G. flavomarginatus: 543. G. polyphemus: 539; 542; 543; 545; 546; 585(308); 617.

## NESTING BEHAVIOR (nest sites, nest construction, egg-laying behavior)

Gopherus spp.: 514(426); 593. G. agassizii: 530(204, 205); 531(8); 543; 572(20); 573(11); 593; 614(140); 620(6, 7, 8); 623(5). G. berlandieri: 543; 623(5); 634(42). G. flavomarginatus: 543; 595(17). G. polyphemus: 501(26); 508(18, 29); 516(135); 539; 543; 546; 564; 585(308); 587(28); 605.

## DESCRIPTIONS OF EGGS

Gopherus spp.: 585(260); 593. G. agassizii: 530(204); 531(8); 543; 572(20); 578; 593; 614(140); 620(6); 632(77). G. berlandieri: 543. G. flavomarginatus: 543; 595(17). G. polyphemus: 501(26); 543; 584(174); 585(308).

## CLUTCH SIZE (number of eggs per clutch, number of clutches)

Gopherus agassizii: 519(1); 528(6); 530(205); 531(8); 532(19); 543; 571(140); 572(20); 573(11); 614(140); 620(6, 7, 8). G. berlandieri: 543. G. flavomarginatus: 543; 595(17). G. polyphemus: 539(26, 69-70); 543; 546; 585(308); 617; 625.

## INCUBATION (conditions required, incubation periods, recommended techniques)

Gopherus agassizii: 525; 530(205); 531; 571(140); 572(20); 593; 620(6, 7, 8); 623. G. berlandieri: 623. G. flavomarginatus: 595(17). G. polyphemus: 542. G. polyphemus X G. berlandieri hybrid: 580.

## HATCHING (descriptions of hatching, hatching season)

Gopherus agassizii: 519(1); 531; 559; 571(140); 572(20); 573(11); 620(6, 7, 8); 623. G. berlandieri: 623. G. polyphemus: 6; 539; 542; 546. G. polyphemus X G. berlandieri hybrid: 580.

## GROWTH RATES; SIZE AND AGE DATA; GROWTH RINGS; LONGEVITY

Gopherus spp.: 507. G. agassizii: 248(39); 502; 525; 531; 539(44); 543; 552(5); 562(250); 563; 571; 572(19, 20); 573(11); 575(3); 581; 588; 589; 599(433); 614(140, 141); 618; 619(3); 620(6, 7, 8); 624; 629(300, 301, 302); 632(16, 57, 62, 75); 633; 638(7). G. berlandieri: 248(39); 502; 529(72); 539(44); 543; 586(337, 342); 597(4); 614(141); 624; 629(300); 634(41). G. flavomarginatus: 539(45); 543; 594(7, 8, 9, 10); 595(14, 15, 17); 629(300). G. polypnemus: 44(113); 248(39); 501(26); 502; 513(4); 524(92); 529(71, 72); 537; 539; 541; 542; 543; 545; 546; 566(621); 568; 584(174); 585(307); 602; 610(184); 617; 629(300); 630(171).

## AGE COMPOSITION OF POPULATIONS

Gopherus agassizii: 109(9-10); 528(6); 532(19); 581(639); 632(75).  
G. berlandieri: 606(450, 451). G. polypnemus: 539; 541.

## FOODS AND FEEDING

Gopherus spp.: 529(71); 545; 556; 587(28). G. agassizii: 502; 505; 519(2); 525; 528; 530(204); 531; 532(19); 552; 556; 561; 562; 570(19); 571; 572(20); 581; 583; 595(18); 600; 609; 614(141); 616; 618; 619(3); 620(7); 632(17); 634(43); 638(7, 8). G. berlandieri: 502; 529(72-73); 597; 634(43). G. flavomarginatus: 594(11); 595(15, 16, 18). G. polypnemus: 501(26, 27); 508; 513(5); 524(92); 529(72); 537; 538; 539(9, 14, 20, 21, 22, 24, 25, 26, 33, 53, 60-61, 66-67); 542; 544; 545; 546; 553(75); 555; 560; 569(94); 576; 577(35); 583; 584(174); 585(308); 587(28); 605; 608; 627.

## SCATOLOGY

Gopherus agassizii: 523; 539(39, 60); 544; 562. G. berlandieri: 544.  
G. polypnemus: 199(14, 15, 35); 539; 544; 579.

## BODY COMPOSITION

Gopherus sp.: 549.

## HEMATOLOGY

Gopherus agassizii: 548; 552(6). G. flavomarginatus: 534.

## SEROLOGY

Gopherus berlandieri: 518; 628.

## CARDIOLOGY

General: 462(52-53). Gopherus agassizii: 632(16, 60-66, 71-73); 633.  
G. polypnemus: 626.

## RESPIRATION

General: 462(52-53). Gopherus agassizii: 409; 545; 552; 588; 589; 591(58, 59); 595(18); 620(7); 632(73); 633(530); 638(11). G. flavomarginatus: 595(18). G. polypnemus: 545; 626.

## DIEL ACTIVITY PATTERNS

General: 19(12); 97; 462; 464; 616(27). Gopherus spp.: 45(30-31); 196; 324(18). G. agassizii: 49(45, 46); 53(372); 57(115); 85(262); 89(27); 96(556); 109(10); 117(514); 124(325-326); 130(10); 135(680); 178(186); 194; 202(229); 206(400); 207(448); 254(258-259); 255(227); 260(276-277); 267; 272(8); 278(62); 284(71); 298; 303(172); 304(364); 308(196); 310(22); 313; 327(65, 67, 68); 333(132); 335; 355(14); 358(240); 396;

410(180, 182); 414; 433; 444(991); 463; 464; 465(2016); 473(4); 478; 498(11, 14-15); 514(273); 525; 530(204); 545; 552(7); 572(20); 591; 599(283-284); 600; 619(4); 632; 633; 634(43); 638(7-8). *G. berlandieri*: 48(177, 200); 124(331); 138(66); 178(192); 207(447); 355(14); 358(247); 378; 386; 529(72); 545; 606; 634. *G. flavomarginatus*: 346(21, 22, 23); 545; 594(9, 10, 11); 595(14, 16, 18); 606(453-454). *G. polypheus*: 1; 48(191); 63(27-28); 77(104); 81(1269); 86; 100; 105(453); 107; 124(335); 133(11); 135(677, 682); 136(157); 138(66); 150(258); 160; 161(441); 178(201); 181(292); 183(47); 187; 192(372); 199(37-63, 76-118); 200; 201; 217(11); 225(28); 235(44); 242(57); 249(22, 23); 269(30); 275(99); 285; 289; 330(83); 333(132, 191); 358(249, 250); 409(521); 440(445); 481; 501(26); 524(92); 529(72); 537; 539; 545; 569(94); 584(174); 606(453-454).

#### SEASONAL ACTIVITY PATTERNS

**General:** 82(3); 97; 462; 464. *Gopherus* spp.: 45(30-31); 96(553); 324(18). *G. agassizii*: 32(35); 45(25, 28-29); 47(564); 48(193, 195); 49(45-46); 53(372-373); 57(115, 116); 58; 81(1267); 85(262); 89(27); 96(553, 556); 109(10); 117(514); 124(325-326); 130(10); 132; 136(156); 140(83, 84); 143(32); 178(186); 194; 202(229); 254(258-259); 255(227); 256(87); 257(102); 260(276); 265(6); 272(5, 8); 284(71); 297(227, 229); 298; 303(172, 174); 304(364); 308(195, 196, 202); 310(23); 327(67); 328(143-144); 333(127, 132); 341(215); 351(10); 358(241, 245); 368; 396; 410(180, 182, 183); 414; 428; 433; 434; 444(990, 991); 459(122); 462(51); 463; 464; 465(2016); 473(4); 478; 479(7, 8, 9, 10, 11); 487; 498(13, 14-15); 514(273); 520; 525; 539(33); 544; 545; 571; 572(20); 581(640); 583; 616; 618; 632; 633(530); 634(43). *G. berlandieri*: 47(564); 48(177, 200); 124(331); 136(156); 178(192); 207(442); 418; 529(72); 545; 606; 634. *G. flavomarginatus*: 47(564); 346(23); 545; 594(11); 595(16, 18). *G. polypheus*: 47(564); 48(192); 63(28); 105(453); 124(335); 133(12); 178(201); 199(58); 201(16); 217(11); 235(44-45); 242(57); 263(196); 302(122); 333(127-128); 358(249, 250); 440(444); 441(455); 497(8); 529(72); 539; 542; 545; 569(94); 583; 617.

#### BURROWS AS REFUGES FROM TEMPERATURE EXTREMES

**General:** 97; 462; 616(27). *Gopherus* spp.: 39(32, 33); 45(30, 31, 34); 48(191, 197); 96(553); 220(353); 545. *G. agassizii*: 39(32); 45(25, 28-29); 47(564); 48(193, 195, 197); 49(46); 57(115); 81(1267, 1268); 83(399-400); 89(26, 27); 96(553, 556); 109(10); 124(325-326); 125(21); 136(156); 140(83); 178(186); 255(227); 256(87); 278(62); 286(230); 297(229); 298; 303(172); 304(364); 335; 358(240); 410(182, 183); 433; 463; 464; 465(2016); 479(11, 12); 498(14-15); 514(273); 515(57); 525; 530(204); 545; 572(20); 599(283-284); 619(3); 632; 633; 634(43); 638(8). *G. berlandieri*: 45(23); 47(564); 48(197, 201); 136(156); 207(442); 545; 634. *G. flavomarginatus*: 47(564); 346(23); 594(11); 595(18). *G. polypheus*: 45(20); 47(564); 48(192, 195, 197); 107; 124(335); 125(87); 178(201, 206); 183(50); 199(2); 225(28); 235(44-45); 249(23); 302(122); 539; 542; 545.

#### SHADE-SEEKING BEHAVIOR

**General:** 19(12); 462; 616(27). *Gopherus* spp.: 45(31). *G. agassizii*: 49(46); 57(115); 89(27); 96(556); 207(448); 254(259); 260(276-277); 271(5); 272(7, 8); 298; 303(172); 308(196); 327(68); 335; 358(240); 410(182); 463; 464; 479(17); 498(12, 14); 545; 591; 632; 633; 634(43); 638(12). *G. berlandieri*: 178(194); 207(447); 355(14); 452(20); 545; 606(453); 632(69); 634. *G. polypheus*: 235(44); 539; 542; 545.

## BASKING

General: 88; 97; 98; 363; 462. Gopherus spp.: 45(31-32); 88(113). G. agassizii: 45(25, 32); 48(193, 195); 49(45); 98(16); 117(514); 178(186); 255(227, 229); 272(5, 7); 298; 304(364); 327(68); 358(240); 444(992); 545; 591; 620(6); 632; 633; 634(43). G. berlandieri: 45(32); 178(192); 545; 634. G. flavomarginatus: 166; 545. G. polyphemus: 45(16, 31-32); 62(35); 63(27-28); 82(12); 178(201); 183(47); 187; 217(11); 235(44-45); 363; 402(39); 409; 539; 545.

## BASKING POSTURES

General: 97; 363(24). Gopherus agassizii: 45(32); 49(45); 66(47); 117(514); 178(201); 255(227); 444(992); 545; 632; 633; 634(42). G. berlandieri: 45(32); 66(47); 178(201); 545; 634(42). G. polyphemus: 45(16, 31-32); 63(27); 66(47); 178(201); 539; 545.

## EFFECTS OF RAIN ON ACTIVITY

Gopherus agassizii: 57(115); 117(514); 135(680); 178(186); 255(227); 265(6); 303(172); 308(196); 313; 328(144); 358(240); 438; 444(990, 991); 459(122); 464(186); 545; 583; 632(44, 47, 48, 54); 633(530). G. berlandieri: 452(26); 545; 591(77); 606(449). G. flavomarginatus: 279(342); 346(23); 545; 594(11); 595(18). G. polyphemus: 1; 100; 105(453); 178(201); 183(47); 192(372); 225(27); 235(44); 242(57); 268(16); 302(122); 440(444); 539(14, 23); 545; 584(174).

## BODY TEMPERATURES (including preferred body temperatures, critical thermal maxima)

General: 97; 98; 248; 462; 464. Gopherus spp.: 45(30-31). G. agassizii: 96(553); 97(383); 98(16, 17); 161(443); 178(186); 207(448); 248(33, 39); 297(227); 298; 304(364); 464(168, 179-181); 545; 554(18); 591; 599(295); 632; 633; 634(43); 636. G. berlandieri: 178(192); 248(33, 39); 378; 545; 606(450, 452, 453); 632(67, 68, 69); 634. G. polyphemus: 82(12, 13); 96(553); 124(338); 178(201); 248(33, 35, 39); 409; 545; 632(67, 68, 69).

## HEATING AND COOLING RATES

General: 88; 97; 98(17); 363. Gopherus agassizii: 98; 298; 409; 464; 545; 632; 633; 634(43). G. berlandieri: 545; 634. G. polyphemus: 409; 542; 545.

## SHELL AS AN INSULATING SHIELD

General: 363; 632(6). Gopherus agassizii: 32(36); 297(229); 298; 410(183); 498(14); 545; 632; 633. G. polyphemus: 363; 545.

## EVAPORATIVE HEAT LOSS (including panting, frothing)

General: 82(3, 33); 97; 363; 632(6). Gopherus spp.: 45(31). G. agassizii: 260(276-277); 298(124); 409(517); 464(177, 178, 185); 523; 545; 632(48, 74, 77-79); 633(530). G. polyphemus: 62(11, 35); 409(516, 517); 539(47); 542; 545.

## DEATH FROM DIRECT INSOLATION

Gopherus agassizii: 109(10); 127; 178(186); 202(226); 260(277); 303(172); 335; 351(11); 358(240); 479(12); 498(13); 530(205); 545; 632(76, 90); 638(11); 640. G. berlandieri: 178(192); 207(447); 545. G. polyphemus: 545.

## DEATH FROM COLD

Gopherus polyphemus: 263(196).

## TEMPERATURE AS A LIMITING FACTOR

General: 82(3). Gopherus spp.: 45(7). G. agassizii: 109(10); 202(228); 298; 552; 629(303); 632(88). G. berlandieri: 231; 358(246). G. polyphemus: 160(293); 161(442); 225(27); 285.

## LIGHT AS A LIMITING FACTOR

Gopherus polyphemus: 508(36, 41, 43).

## WATER BALANCE (moisture requirements, drinking, water loss)

Gopherus agassizii: 514(273); 520; 523; 525; 552(7); 556; 571(140, 144); 572(19, 20); 583; 593; 595(18); 599(283, 284); 607; 632(74, 76, 77, 79, 90); 638(7). G. berlandieri: 597; 606(454). G. flavomarginatus: 594(11); 595(18). G. polyphemus: 524(92); 526; 545; 583; 610(184).

## BONE REGENERATION

Gopherus agassizii: 554(123); 572(20). G. polyphemus: 554(63).

## BURROW CHARACTERISTICS

Gopherus spp.: 514(68, 110, 490); 556; 586(342); 587(28). G. agassizii: 525; 528(4); 530(204, 205); 544; 545; 562(247); 572(20); 584; 614(141); 632(23, 86-87, 90); 633(530); 634(43). G. berlandieri: 529(72); 545; 606(448, 450, 453); 632(67, 69); 634(42, 43). G. flavomarginatus: 544; 594(8, 9); 595(16, 17). G. polyphemus: 125(87); 133(3-4); 501(26); 502; 508(29, 31, 33, 41); 511; 516(135); 524(92); 527; 529(72); 539; 542; 544; 545; 565(215); 566(612, 618); 568; 569(94-95); 579; 584; 585(307, 308); 586(337); 594(9); 595(17); 610(183, 184); 617.

## BURROW TEMPERATURE

Gopherus spp.: 45(31); 545. G. agassizii: 260(276); 298; 545; 571(144); 599(284); 632; 633(530). G. berlandieri: 545; 632(67, 69); 634. G. flavomarginatus: 594(11); 595(18). G. polyphemus: 133(4); 545.

## BURROW MOISTURE AND HUMIDITY

Gopherus spp.: 45(30); 545. G. agassizii: 599(284); 632(79). G. polyphemus: 133(3); 545; 569(94).

## BURROW OCCUPANCY AND CONSTANCY

Gopherus agassizii: 525; 539(33, 39, 60); 544; 572(20); 599(475); 620(7); 632(23, 86). G. berlandieri: 539(60); 544; 606(453). G. flavomarginatus: 544; 594(9); 595(16, 17). G. polyphemus: 125(87); 133(4); 501(26); 502; 508(6, 27, 30; Tables 17, 19; Fig. 2); 524(92); 538; 539; 540; 542; 544; 545; 595(17); 617.

## BURROW ASSOCIATES (commensals and obligates)

Gopherus spp.: 514(490); 556; 558(154); 586(342). G. agassizii: 530(204); 558(154); 586(337). G. berlandieri: 502; 529(72); 544. G. polyphemus: 133(1, 11-12); 138(66, 195, 303-304, 305); 358(252-253, Pl. 89); 501(26-27, 31); 502; 527; 529(72, 235, 348, 350); 537; 539(3, 11); 542; 544; 545; 546; 558(154); 565(218, 263, 312, 313, 355, 372); 566(612, 618); 579; 585(iii, 13, 183, 227, 307, 308); 603; 610(184-185); 631; 643(94).

## HOME RANGE

Gopherus agassizii: 539(33, 60); 572(20); 599(475); 620(7). G. berlandieri: 544; 606; 634(41, 42). G. flavomarginatus: 594(9); 606(453-454). G. polyphemus: 235(44); 508(1, 30); 524(92); 538; 539; 540; 544; 545; 606(453-454).

## POPULATION DENSITY

Gopherus spp.: 594(8-9). G. agassizii: 525; 528(2); 532(19); 562(250); 572(20); 581(639, 640); 599(475); 615(9); 632(13). G. berlandieri: 606(450, 451). G. flavomarginatus: 594(8-9); 595(14, 15, 16, 17). G. polypnemus: 123(105-106); 501(26); 508; 537; 538; 539; 540; 542; 545; 546; 568; 584(174); 586(337); 621.

## SOCIAL ATTRACTION (see also BURROW OCCUPANCY AND CONSTANCY)

General: 523. Gopherus spp.: 523. G. agassizii: 523; 544; 591. G. berlandieri: 544. G. polypnemus: 502; 508(8).

## MIGRATIONS

Gopherus berlandieri: 606(449). G. polypnemus: 508(15, 16, 18, 24).

## POSSIBLE TERRITORIALITY (see also AGONISTIC BEHAVIOR)

General: 43; 523; 539; 599(475). Gopherus spp.: 624. G. agassizii: 523; 539(60); 599(475). G. berlandieri: 539(60); 606(453). G. flavomarginatus: 539(49). G. polypnemus: 539; 540; 545.

## ORIENTATION AND HOMING

Gopherus agassizii: 599(475). G. berlandieri: 606(448). G. polypnemus: 539; 542; 569(94).

## DISEASES; DIETARY DEFICIENCIES

Gopherus sp.: 549. G. agassizii: 532(19); 552; 554(59, 121-123); 575. G. berlandieri: 597; 628. G. polypnemus: 554(56, 116); 555; 591(68).

## INJURIES

Gopherus agassizii: 552(6). G. polypnemus: 501(26); 554(63).

## PARASITES

Bacteria: Gopherus agassizii: 552. G. polypnemus: 554(116).

Fungi: Gopherus agassizii: 552(8); 575.

Nematodes: Gopherus spp.: 596. Gopherus sp.: 596. G. agassizii: 596.

G. flavomarginatus: 596. G. polypnemus: 596.

Leeches: Gopherus polypnemus: 569(94).

Ticks

Amblyomma tuberculatum on Gopherus polypnemus: 537; 538; 544; 641; 642.

Other ticks: Gopherus polypnemus: 527; 544; 566(612).

## PREDATORS (see also EGG PREDATORS and USE AS FOOD BY HUMANS)

Gopherus agassizii: 525; 528(6); 532(19); 546; 572(20); 591; 593; 632(76). G. berlandieri: 546. G. polypnemus: 546; 585(183); 631.

## EGG PREDATORS

Gopherus agassizii: 525. G. polypnemus: 546; 584(174).

## HABITAT DESTRUCTION; URBANIZATION

Gopherus agassizii: 505; 525; 528; 532(19); 562; 572(20); 581(639); 614(140); 615; 632(13). G. polypnemus: 508; 553(75).

## HIGHWAY MORTALITY

Gopherus agassizii: 572(20); 614(140). G. polypnemus: 550(366).

## WANTON KILLING

Gopherus agassizii: 505; 528(4, 6); 532(19).

## GASSING OF BURROWS

Gopherus polypheus: 585(iii, 183, 227).

## USE AS FOOD BY HUMANS

Gopherus agassizii: 502; 522(95, 96); 629(299). G. berlandieri: 502.  
G. flavomarginatus: 522(96); 594(11); 595(15, 16). G. polypheus: 501;  
502; 503; 508(4, 11, 38, 39, 40); 510; 537; 539(46); 543; 546; 550(366,  
367); 553(75); 567; 568; 582; 584(174); 585(iv); 625; 630(172).

## USE AS PETS; CARE IN CAPTIVITY

Gopherus spp.: 524(93). G. agassizii: 520; 525; 531; 532(19); 535;  
552; 559; 562(250); 571; 572(20); 573(11); 581(639); 600; 609; 614(140);  
620. G. berlandieri: 535; 559; 604(15); 614(141). G. flavomarginatus:  
595(16). G. polypheus: 513; 524(92); 537; 605; 630(172).

## OTHER ECONOMIC IMPACTS AND USES

Gopherus agassizii: 600. G. polypheus: 501(27, 31); 508(4);  
577(34-35); 625; 643(92).

## CONSERVATION (legislation, recommendations)

Gopherus spp.: 556. G. agassizii: 52; 504; 505; 517; 525; 528; 531(8);  
532; 533; 559; 562; 571(144); 572(20); 581(639); 592; 614(141); 615;  
639. G. berlandieri: 559; 604(15); 614(141). G. flavomarginatus:  
594(7, 11); 595(15, 16, 18). G. polypheus: 508(25, 26); 537; 538;  
585(iv, 336).

## METHODS OF CAPTURE

Gopherus berlandieri: 512. G. flavomarginatus: 595(15, 16-17). G. polypheus: 501(26); 503; 524(100-101); 539; 566(618).

## MARKING SYSTEMS

Gopherus agassizii: 581(640). G. berlandieri: 634(41). G. polypheus: 539(3).



ISLAND LISTS  
OF  
WEST INDIAN  
AMPHIBIANS AND REPTILES

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SMITHSONIAN  
HERPETOLOGICAL INFORMATION  
SERVICE  
NO. 40

1977

Division of Reptiles & Amphibians  
National Museum of Natural History  
Washington, DC 20560

INTRODUCTION

The West Indian reptiles and amphibians are popular subjects of various kinds of biological research. These investigations will benefit greatly from Schwartz and Thomas' (1975) recent checklist, the first taxonomic summary in several decades. The present lists, which started as an ecology class project at the College of the Virgin Islands, are largely a compilation of Schwartz and Thomas' locality records. Our lists are useful in themselves, serve as a geographical index to Schwartz and Thomas, and should encourage more complete documentation of distributions.

627 islands are listed, some without records of reptiles or amphibians. Areas and maximum elevations are given wherever available. We have included everything that has a name, could support terrestrial vertebrates, and was not obviously a rock periodically awash. Even so, the list is far from complete. We have included the islands off the South and Central American coasts, many of which have more or less West Indian faunae and which are frequented by students of Antillean biota. Records from these islands are mostly from sources other than Schwartz and Thomas, as are a few in the Antilles proper. All such records are footnoted.

We have not identified introduced species. Any student of these animals will immediately recognize the obvious introductions and will have personal opinions concerning the many nebulous cases. We did not wish to express our opinions without discussion. The neophyte is referred to Schwartz and Thomas (1975) for their opinions.

It is likely that considerable locality data exist which are not included in these lists. We invite anyone having additions or corrections to send them to us. If there is sufficient response, a second edition will be published. New records could be incorporated in subsequent editions, avoiding the diffuse, one county at a time pattern typical of North American herpetology. We will be glad to list collaborators as co-authors of the edition to which they contribute.

PLEASE COLLABORATE: SEND US RECORDS THAT CAN BE ADDED TO THESE LISTS.



1.a Great Corn Island

*Anolis villaee\**  
*Ameiva undulatus miadus\*\**  
*Sphaerodactylus a. argus*  
*Drymobius margaritiferus maydis\*\**  
*Elaphe flavirufa pardalina\*\**  
*Micrurus nigrocinctus babaspul\*\**

1.b Little Corn Island

*Micrurus nigrocinctus babaspul\*\**

\*Fitch and Henderson, 1976  
 \*\*Peters and Donoso-Barros, 1970  
 Peters and Orejas-Miranda, 1970

2.a Isla San Andres

*Leptodactylus insularum*  
*Anolis concolor*  
*Aristelliger georgeensis*  
*Cnemidophorus l. lemniscatus*  
*Ctenosaura similis*  
*Iguana iguana*  
*Sphaerodactylus argus andresensis*  
*Boa constrictor imperator*  
*Coniophanes andresensis*  
*Leptotyphlops goudotii magnamaculatus*

2.b Haines Cay

*Anolis concolor*

3.a Isla de Providencia

*Leptodactylus insularum*  
*Ameiva ameiva fuliginosa*  
*Anolis pinchoti*  
*Aristelliger georgeensis*  
*Cnemidophorus l. lemniscatus*  
*Ctenosaura similis*  
*Iguana iguana*  
*Mabuya mabouya pergravis*  
*Boa constrictor imperator*  
*Leptotyphlops goudotii magnamaculatus*

3.b Isla Santa Catalina

*Anolis pinchoti*  
*Aristelliger georgeensis*  
*Cnemidophorus l. lemniscatus*  
*Mabuya mabouya pergravis*  
*Boa constrictor imperator*

3.c Crab Cay

*Anolis pinchoti*  
*Aristelliger georgeensis*

4. Cayos Miskito5. ISLAS DE LA BAHIA5.a Roatan

*Anolis allisoni*  
*Anolis s. sagrei*  
*Ctenosaura bakeri\**  
*Phyllodactylus palmeus\**  
*Elaphe flavirufa polysticha\**  
*Leptotyphlops goudotii magnamaculata*

5.b Guanaja

*Ctenosaura bakeri\**  
*Leptotyphlops goudotii magnamaculata*  
*Tantilla tritaeniata\**

5.c Utila

*Ctenosaura bakeri\**  
*Leptotyphlops goudotii magnamaculata*

5.d Santa Elena

*Sphaerodactylus rosaurae\**

5.e Barbareta5.f Morat5.g Hog Island

\*Peters and Donoso-Barros, 1970  
 Peters and Orejas-Miranda, 1970

6.a Swan Island

*Ameiva ameiva fuliginosa*  
*Anolis sagrei nelsoni*  
*Aristelliger praesignis nelsoni*  
*Cnemidophorus l. lemniscatus*  
*Leiocephalus carinatus varius*  
*Leptotyphlops goudotii magnamaculata*

6.b Little Swan Island

*Anolis sagrei nelsoni*  
*Aristelliger praesignis nelsoni*  
*Leiocephalus carinatus varius*  
*Sphaerodactylus notatus exsul*  
*Alsophis cantherigerus brooksi*

7.a Half Moon Cay

*Anolis allisoni*  
*Anolis sagrei\**  
*Phyllodactylus insularis\*\**

7.b Tuneffe Island

*Anolis allisoni*

7.c Cozumel

*Anolis sagrei sagrei*  
*Aristelliger georgeensis*  
*Cnemidophorus c. cozumela\*\**

\*Williams, 1969

\*\*Peters and Donoso-Barros, 1970

8.a Grand Cayman

*Eleutherodactylus p. planirostris*  
*Osteopilus septentrionalis*  
*Chrysemys decussata granti*  
*Anolis c. conspersus*  
*Anolis conspersus lewisi*  
*Aristelliger p. praesignis*  
*Cyclura nubila caymanensis*  
*Cyclura nubila lewisi*  
*Leiocephalus carinatus varius*  
*Sphaerodactylus argivus lewisi*  
*Alsophis cantherigerus caymanus*  
*Tretanorhinus variabilis lewisi*  
*Tropidophis c. caymanensis*  
*Typhlops caymanensis*

8.b Little Cayman

*Osteopilus septentrionalis*  
*Anolis maynardi*  
*Anolis sagrei sagrei*  
*Aristelliger p. praesignis*  
*Cyclura nubila caymanensis*  
*Diploglossus crusculus maculatus*  
*Leiocephalus carinatus granti*  
*Sphaerodactylus argivus bartschi*  
*Alsophis cantherigerus ruttyi*  
*Crocodylus acutus\**

8.c Cayman Brac

*Eleutherodactylus p. planirostris*  
*Osteopilus septentrionalis*  
*Chrysemys decussata granti*  
*Anolis sagrei luteosignifer*

*Aristelliger p. praesignis*  
*Cyclura nubila caymanensis*  
*Diploglossus crusculus maculatus*  
*Leiocephalus carinatus granti*  
*Sphaerodactylus a. argivus*  
*Alsophis cantherigerus fuscicauda*  
*Tropidophis caymanensis schwartzi*  
*Typhlops biminiensis epactia*

\*Williams, 1969

9.a Jamaica (1139km<sup>2</sup>; 2279m)

*Bufo marinus*  
*Calyptahyla crucialis*  
*Eleutherodactylus alticola*  
*Eleutherodactylus andrewsi*  
*Eleutherodactylus cavernicola*  
*Eleutherodactylus c. cundalli*  
*Eleutherodactylus cundalli glaucoreius*  
*Eleutherodactylus fuscus*  
*Eleutherodactylus g. gossei*  
*Eleutherodactylus gossei oligaulax*  
*Eleutherodactylus grabhami*  
*Eleutherodactylus jamaicensis*  
*Eleutherodactylus johnstonei*  
*Eleutherodactylus junori*  
*Eleutherodactylus luteolus*  
*Eleutherodactylus nubicola*  
*Eleutherodactylus orcutti*  
*Eleutherodactylus p. pantoni*  
*Eleutherodactylus pantoni amiantus*  
*Eleutherodactylus pantoni pentasyringos*  
*Hyla mariana*  
*Hyla wilderi*  
*Osteopilus brunneus*  
*Rana catesbeiana*  
*Chrysemys terrapen*  
*Ameiva dorsalis*  
*Anolis garmani*  
*Anolis grahami grahami*  
*Anolis grahami aquarum*  
*Anolis l. lineatopus*  
*Anolis lineatopus ahenobarbus*  
*Anolis lineatopus merope*  
*Anolis lineatopus neckeri*  
*Anolis opalinus*  
*Anolis reconditus*  
*Anolis sagrei sagrei*  
*Anolis valencienni*  
*Aristelliger p. praesignis*  
*Cyclura collei*  
*Diploglossus barbouri*  
*Diploglossus c. crusculus*  
*Diploglossus crusculus cundalli*

Jamaica, cont.

*Diploglossus crusculus molesworthi*  
*Diploglossus duquesnei*  
*Diploglossus fowleri*  
*Diploglossus hewardi*  
*Diploglossus microblepharis*  
*Diploglossus occiduus*  
*Gonatodes albogularis notatus*  
*Mabuya mabouya sloanei*  
*Sphaerodactylus a. argus*  
*Sphaerodactylus gilvitorques*  
*Sphaerodactylus goniorhynchus*  
*Sphaerodactylus o. oxyrhinus*  
*Sphaerodactylus oxyrhinus dacnicolor*  
*Sphaerodactylus parkeri*  
*Sphaerodactylus r. richardsoni*  
*Sphaerodactylus richardsoni gossei*  
*Sphaerodactylus semasiops*  
*Alsophis ater*  
*Arrhyton callilaemus*  
*Arrhyton funereum*  
*Arrhyton polylepis*  
*Epicrates subflavus*  
*Tropidophis haetianus jamaicensis*  
*Tropidophis haetianus stejnegeri*  
*Tropidophis haetianus stulli*  
*Crocodylus acutus*

9.b Pigeon Island

*Ameiva dorsalis*

9.c Bogue Island

*Aristelliger p. praesignis*

9.d N.E. Morant Cay

*Aristelliger p. praesignis*  
*Sphaerodactylus notatus atactus*

9.e S.W. Morant Cay

*Aristelliger p. praesignis*

9.f Middle Morant Cay

*Aristelliger p. praesignis*

9.g Rocky Morant Cay

*Aristelliger p. praesignis*

9.h S.W. Pedro Cay

*Aristelliger p. praesignis*

9.i N.E. Pedro Cay

*Spaerodactylus a. argus*

9.j Goat Island

*Cyclura collei*  
*Epicrates subflavus*

9.k Little Goat Island

*Cyclura collei*

10.a Cuba (114,385km<sup>2</sup>; 2005m)

*Bufo cataulaciceps*  
*Bufo empusus*  
*Bufo gundlachi*  
*Bufo longinasus longinasus*  
*Bufo longinasus dunni*  
*Bufo longinasus ramsdeni*  
*Bufo p. peptocephalus*  
*Bufo peptocephalus fustiger*  
*Bufo taladai*  
*Eleutherodactylus acmonis*  
*Eleutherodactylus albipes*  
*Eleutherodactylus a. atkinsi*  
*Eleutherodactylus atkinsi orientalis*  
*Eleutherodactylus auriculatus*  
*Eleutherodactylus bartonsmithi*  
*Eleutherodactylus bresslerae*  
*Eleutherodactylus cubanus*  
*Eleutherodactylus cuneatus*  
*Eleutherodactylus d. dimidiatus*  
*Eleutherodactylus dimidiatus amelasma*  
*Eleutherodactylus eileenae*  
*Eleutherodactylus emiliae*  
*Eleutherodactylus etheridgei*  
*Eleutherodactylus greyi*  
*Eleutherodactylus gundlachi*  
*Eleutherodactylus intermedius*  
*Eleutherodactylus klinikowskii*  
*Eleutherodactylus leberi*  
*Eleutherodactylus pezopetrus*  
*Eleutherodactylus pinarensis*  
*Eleutherodactylus p. planirostris*  
*Eleutherodactylus planirostris casparii*  
*Eleutherodactylus planirostris goini*  
*Eleutherodactylus ricordi*  
*Eleutherodactylus sierramaestrae*  
*Eleutherodactylus symingtoni*  
*Eleutherodactylus t. thomasi*  
*Eleutherodactylus thomasi trinidadensis*  
*Eleutherodactylus thomasi zayasi*  
*Eleutherodactylus v. varians*  
*Eleutherodactylus varians olibrus*

Cuba, cont.

Eleutherodactylus varians staurometopon	Anolis jubar jubar
Eleutherodactylus varleyi	Anolis jubar albertschwartzii
Eleutherodactylus zeus	Anolis jubar cuneus
Eleutherodactylus zugi zugi	Anolis jubar gibarensis
Eleutherodactylus zugi erythrocrotus	Anolis jubar maisiensis
Hyla crucifer	Anolis jubar oriens
Osteopilus septentrionalis	Anolis jubar yagujayensis
Rana catesbeiana	Anolis loysiana
Sminthillus l. limbatus	Anolis lucius
Sminthillus limbatus orientalis	Anolis l. luteogularis
Chrysemys decussata decussata	Anolis luteogularis calceus
Ameiva auberi auberi	Anolis luteogularis jaumei
Ameiva auberi abducta	Anolis luteogularis nivevultus
Ameiva auberi atrothorax	Anolis mestrei
Ameiva auberi cacuminis	Anolis mimus
Ameiva auberi citra	Anolis noblei noblei
Ameiva auberi denticula	Anolis noblei galeifer
Ameiva auberi garridoi	Anolis ophiolepis
Ameiva auberi gemmea	Anolis paternus pinarensis
Ameiva auberi granti	Anolis porcatus
Ameiva auberi hardyi	Anolis quadriocellifer
Ameiva auberi llanensis	Anolis rubribarbus
Ameiva auberi paulsoni	Anolis sagrei sagrei
Ameiva auberi peradusta	Anolis sagrei greyi
Ameiva auberi procer	Anolis s. smallwoodi
Ameiva auberi pullata	Anolis smallwoodi palardis
Ameiva auberi sabulicolor	Anolis smallwoodi saxuliceps
Ameiva auberi ustulata	Anolis spectrum
Ameiva auberi zugi	Anolis vandicus vandicus
Anolis ahli	Anolis vandicus rejectus
Anolis alutaceus alutaceus	Anolis vermiculatus
Anolis alutaceus saltatus	Chamaeleolis chamaeleonides
Anolis a. angusticeps	Chamaeleolis porcus
Anolis argenteolus	Cricosaura typica
Anolis argillaceus	Cyclura nubila nubila
Anolis baracoae	Diploglossus d. delasagra
Anolis bartschi	Diploglossus delasagra nigropunctatus
Anolis b. bremeri	Gonatodes albogularis fuscus
Anolis c. centralis	Hemidactylus brooki haetianus
Anolis centralis litoralis	Hemidactylus mabouia
Anolis clivicola	Hemidactylus turcicus
Anolis cupeyapleurus	Leiocephalus c. carinatus
Anolis e. equestris	Leiocephalus carinatus aquarius
Anolis equestris buidei	Leiocephalus carinatus labrossytus
Anolis equestris juraguensis	Leiocephalus carinatus mogotensis
Anolis equestris persparsus	Leiocephalus carinatus zayasi
Anolis equestris thomasi	Leiocephalus cubensis cubensis
Anolis equestris verreonensis	Leiocephalus macropus macropus
Anolis fugitivus	Leiocephalus macropus aegialus
Anolis h. homolechis	Leiocephalus macropus asbolomus
Anolis homolechis turquinensis	Leiocephalus macropus hoplites
Anolis imias	Leiocephalus macropus hyacinthurus
Anolis isolepis	Leiocephalus macropus immaculatus
Anolis juangundlachi	Leiocephalus macropus koopmani
	Leiocephalus macropus lenticulatus
	Leiocephalus macropus phylax
	Leiocephalus onaneyi

Cuba, cont.

*Leiocephalus raviceps raviceps*  
*Leiocephalus raviceps delavarai*  
*Leiocephalus raviceps jaumei*  
*Leiocephalus raviceps klinikowskii*  
*Leiocephalus raviceps usselli*  
*Leiocephalus s. stictigaster*  
*Leiocephalus stictigaster celestes*  
*Leiocephalus stictigaster gibarensis*  
*Leiocephalus stictigaster lipomator*  
*Leiocephalus stictigaster lucianus*  
*Leiocephalus stictigaster naranjoi*  
*Leiocephalus stictigaster ophiplacodes*  
*Leiocephalus stictigaster sierrae*  
*Sphaerodactylus alayoi*  
*Sphaerodactylus argus argus*  
*Sphaerodactylus armasi*  
*Sphaerodactylus bromeliacum*  
*Sphaerodactylus cinereus*  
*Sphaerodactylus intermedius*  
*Sphaerodactylus nigropunctatus granti*  
*Sphaerodactylus nigropunctatus lissodesmus*  
*Sphaerodactylus nigropunctatus strategus*  
*Sphaerodactylus notatus atactus*  
*Sphaerodactylus o. oliveri*  
*Sphaerodactylus oliveri storeyae*  
*Sphaerodactylus ramsdeni*  
*Sphaerodactylus ruibali*  
*Sphaerodactylus scaber*  
*Sphaerodactylus t. torrei*  
*Sphaerodactylus torrei ocujal*  
*Sphaerodactylus torrei ocujal*  
*Sphaerodactylus torrei spielmani*  
*Tarentola a. americana*  
*Amphisbaena c. cubana*  
*Cadea blanoides*  
*Alsophis c. cantherigerus*  
*Alsophis cantherigerus adspersus*  
*Alsophis cantherigerus pepei*  
*Alsophis cantherigerus schwartzii*  
*Antillotyphlops andrei andrei*  
*Antillotyphlops andrei orientalis*  
*Antillotyphlops andrei peninsulae*  
*Arrhyton dolichrum*  
*Arrhyton taeniatum*  
*Arrhyton vittatum vittatum*  
*Arrhyton vittatum landoi*  
*Epicrates angulifer*  
*Natrix fasciata compressicauda*  
*Tretanorhinus v. variabilis*  
*Tretanorhinus variabilis binghami*  
*Tretanorhinus variabilis wagleri*  
*Tropidophis feicki*  
*Tropidophis h. haetianus*  
*Tropidophis maculatus*  
*Tropidophis m. melanurus*

*Tropidophis melanurus dysodes*  
*Tropidophis n. nigrovittatus*  
*Tropidophis nigrovittatus hardyi*  
*Tropidophis pardalis*  
*Tropidophis pilosbryi pilosbryi*  
*Tropidophis pilosbryi galaceus*  
*Tropidophis semicinctus*  
*Tropidophis wrighti*  
*Typhlops lumbricalis*  
*Crocodylus acutus*  
*Crocodylus rhombifer*  
  
10.b Isla de Pinos  
  
*Bufo cataulaciceps*  
*Bufo empusa*  
*Bufo gundlachi*  
*Bufo p. peltcephalus*  
*Eleutherodactylus a. atkinsi*  
*Eleutherodactylus auriculatus*  
*Eleutherodactylus cuneatus*  
*Eleutherodactylus pinarensis*  
*Eleutherodactylus p. planirostris*  
*Eleutherodactylus varius staurometopon*  
*Eleutherodactylus varleyi*  
*Osteopilus septentrionalis*  
*Rana catesbeiana*  
*Chrysemys d. decussata*  
*Ameiva auberi marcida*  
*Ameiva auberi secta*  
*Anolis a. angusticeps*  
*Anolis argillaceus*  
*Anolis bremeri insulaepinorum*  
*Anolis h. homolechis*  
*Anolis luteogularis delacruzi*  
*Anolis luteogularis hassleri*  
*Anolis luteogularis secalis*  
*Anolis ophiolepis*  
*Anolis p. paternus*  
*Anolis porcatus*  
*Anolis sagrei sagrei*  
*Chamaeleolis chamaeleonides*  
*Cyclura nubila nubila*  
*Leiocephalus carinatus microcyon*  
*Leiocephalus cubensis gigas*  
*Leiocephalus macropus macropus*  
*Leiocephalus stictigaster astictus*  
*Leiocephalus stictigaster exotheotus*  
*Sphaerodactylus cinereus*  
*Sphaerodactylus notatus*  
*Sphaerodactylus oliveri storeyae*  
*Terentola a. americana*  
*Amphisbaena cubana cubana*  
*Cadea blanoides*  
*Alsophis c. cantherigerus*  
*Antillotyphlops andrei nebulatus*  
*Arrhyton taeniatum*

Isla de Pinos, cont.

Arrhyton vittatum vittatum

Epicrates angulifer

Tretanorhinus variabilis insulaepinorum Ameiva auberi zugi

Tropidophis maculatus Cyclura nubila nubila

Tropidophis melanurus ericksoni Leiocephalus cubensis pambasileus

Tropidophis pardalis

Typhlops lumbricalis

Crocodylus acutus

Crocodylus rhombifer

## ARCHIPIELAGO DE LOS CANARREOS

(c through p)

10.c Cayo Matias

Ameiva auberi zugi

Anolis sagrei sagrei

Cyclura nubila nubila

10.d Cayo Palma10.e Cayo Cantiles

Osteopilus septentrionalis

Ameiva auberi zugi

Anolis a. angusticeps

Anolis h. homolechis

Anolis luteogularis coctilis

Anolis porcatus

Anolis sagrei sagrei

Sphaerodactylus notatus atactus

Alsophis c. cantherigerus

Antillophis andrei

Epicrates angulifer

Crocodylus acutus

10.f Cayo del Pasaje10.g Cayo Rosario

Alsophis c. cantherigerus

10.h Cayo Largo

Ameiva auberi zugi

Anolis sagrei sagrei

Alsophis c. cantherigerus

Tretanorhinus variabilis

Crocodylus acutus

10.i Cayo de Dios10.j Cayo Guano10.k Cayo Traviesa10.l Cayo Hicacos

Ameiva auberi zugi Cyclura nubila nubila

Leiocephalus cubensis pambasileus

10.m Cayo Avalos

Ameiva auberi zugi

Anolis sagrei sagrei

Cyclura nubila nubila

Sphaerodactylus notatus atactus

10.n Cayo Majaes

Cyclura nubila nubila

10.o Cayo La Piedra

Cyclura nubila nubila

10.p Cayo Campos

Leiocephalus cubensis pambasileus

## JARDINES DE LA REINA

(q through ee)

10.q Cayo Blanco de Casilda10.r Cayo Breton10.s Cayo Cinco Balas10.t Cayo Grande

Leiocephalus carinatus cayensis

Sphaerodactylus cinereus

10.u Cayo Anclitas

Ameiva auberi galbiceps

10.v Cayo Medanos de Manan10.x Cayo Algodon Grande10.y Cayo Cachiboca

Ameiva auberi galbiceps

Anolis sagrei sagrei

Cyclura nubila nubila

Leiocephalus carinatus cayensis

Leiocephalus cubensis paraphrus

10.z large cay 3km NW Cachiboca

*Ameiva auberi galbiceps*  
*Leiocephalus cubensis paraphrus*

10.aa cay W of Cachiboca

*Leiocephalus cubensis paraphrus*

10.bb Cayo Caballones

*Ameiva auberi galbiceps*  
*Leiocephalus carinatus cayensis*

10.cc Cayo Cabeza del Este

*Ameiva auberi galbiceps*  
*Sphaerodactylus argus argus*  
*Tarentola a. americana*

10.dd Cayo Granada

*Leiocephalus carinatus cayensis*

10.ee Cayo Levisa

*Sphaerodactylus argus argus*  
*Tarentola a. americana*

10.ff Cayos Mordazo10.gg Cayos Sevilla10.hh Cayo Perla10.ii Cayo Moa

ARCHIPELAGO DE SABANA  
(jj through aq)

10.jj Cayo Sabinal

*Ameiva auberi sublesta*  
*Anolis jubar cuneus*  
*Anolis sagrei sagrei*  
*Leiocephalus stictigaster peraspex*

10.kk Cayo Guajaba10.ll Cayo Romano

*Anolis jubar*

10.mm Cayo Verde10.nn Cayo Confites10.oo Cayo Cruz10.pp Gayo Paredon Grande

*Tropidophis pardalis*

10.qq Cayo Coco

*Anolis sagrei sagrei*  
*Sphaerodactylus cinereus*

10.rr Isla Turiguano

*Anolis jubar jubar*

10.ss Cayo Caiman Grande de Santa Maria

*Ameiva auberi orlandoii*

10.tt Cayo Santa Maria

*Bufo p. peptocephalus*  
*Osteopilus septentrionalis*  
*Chrysemys d. decussata*  
*Ameiva auberi orlandoii*  
*Anolis a. angusticeps*  
*Anolis argillaceus*  
*Anolis equestris potior*  
*Anolis jubar santamariae*  
*Anolis porcatus*  
*Anolis sagrei sagrei*  
*Cyclura nubila nubila*  
*Leiocephalus stictigaster septentrionalis*  
*Sphaerodactylus nigropunctatus*  
*Amphisbaena cubana barbouri*  
*Alsophis c. cantherigerus*  
*Antillophis andrei*

10.uu Cayo Frances

*Ameiva auberi orlandoii*  
*Anolis a. angusticeps*  
*Anolis porcatus*  
*Anolis sagrei sagrei*  
*Leiocephalus stictigaster septentrionalis*  
*Sphaerodactylus cinereus*  
*Sphaerodactylus nigropunctatus*  
*Tarentola a. americana*  
*Alsophis c. cantherigerus*

10.vv Cayo Fragoso10.ww Cayo del Pajonal10.xx Cayo Sotacento

<u>10.yy Cayo Megano</u>	<i>Alsophis c. cantherigerus</i> <i>Natrix fasciata compressicauda</i>
<u>10.zz Cayo Bahia de Cadiz</u>	<u>10.al Los Ballenatos (Bahia de Nuevitas)</u>
Ameiva auberi extraria Cyclura nubila nubila Alsophis c. cantherigerus	Anolis jubar balaenarum
<u>10.ab Cayo Cruz del Padre</u>	<u>10.am Cayo Monitos de Jutia</u>
<u>10.ac Cayo Piedras del Norte</u>	Anolis sagrei sagrei Cyclura nubila nubila
<u>10.ad Cayuelo de la Vela</u>	<u>10.an Cayo Caiman del Faro</u>
Ameiva auberi extorris	Anolis sagrei sagrei Sphaerodactylus nigropunctatus
<u>10.ae Cayo Monos de Jutia</u>	<u>10.ao Cayo Cobos</u>
Ameiva auberi extraria Anolis sagrei sagrei	Anolis sagrei sagrei
<u>10.af Cayo Lanzanillo</u>	<u>10.ap Cayo Conuco</u>
Ameiva auberi extraria Anolis a. angusticeps Anolis sagrei sagrei Leiocephalus raviceps	Sphaerodactylus scaber Leiocephalus carinatus
<u>10.ag Cayo Carenero</u>	<u>10.aq Cayo Arenas</u>
Ameiva auberi extraria	<u>10.ar Cayo Jutias</u>
<u>10.ah Cayo Las Tocineras</u>	<u>10.as Cayo Buenavista</u>
Ameiva auberi extraria	<u>10.at Cayo La Reina</u>
<u>10.ai Cayo Tio Pepe</u>	CAYOS DE SAN FELIPE (au through ax)
Ameiva auberi extraria Cyclura nubila nubila	<u>10.au Cayo Real</u>
<u>10.aj Cayo Guillermo</u>	Osteopilus septentrionalis Ameiva auberi sanfelipensis Anolis a. angusticeps Anolis h. homolechis Anolis luteogularis sanfelipensis Anolis porcatus Anolis sagrei sagrei Sphaerodactylus notatus atactus Leiocephalus stictigaster septentrionalis Tropidophis m. melanurus Crocodylus acutus
<u>10.ak Cayo Las Brujas</u>	<u>10.av Cayo Juan Garcia</u>
Ameiva auberi orlandoi Anolis a. angusticeps Anolis argillaceus Anolis equestris potior Anolis sagrei sagrei	Ameiva auberi sanfelipensis Anolis porcatus Anolis sagrei sagrei Cyclura nubila nubila

Cayo Juan Garcia cont.

*Leiocephalus cubensis minor*  
*Alsophis c. cantherigerus*

10.aw Cayo San Felipe

*Anolis a. angusticeps*

10.ax Cayos de Dios10/ay Islas de Mangles10.az Cayo Culebra

## CAY SAL BANK

11.a Cay Sal

*Anolis sagrei ordinatus*  
*Anolis smaragdinus fairchildi*

11.b Double Headed Shot Cays

*Tropidophis canus curtus*

11.c Elbow Cay

*Anolis sagrei ordinatus*  
*Sphaerodactylus nigropunctatus*  
*flavicaudus*  
*Tropidophis canus curtus*  
*Typhlops b. biminiensis*

11.d Cotton Cay

*Anolis sagrei ordinatus*  
*Anolis smaragdinus fairchildi*

11.e Anguilla Cays

*Anolis sagrei ordinatus*

## LITTLE BAHAMA BANK

12.a Grand Bahama Island

*Eleutherodactylus p. planirostris*  
*Gastrophryne carolinensis*  
*Hyla squirella*  
*Osteopilus septentrionalis*  
*Anolis sagrei ordinatus*  
*Leiocephalus carinatus armouri*  
*Sphaerodactylus notatus peltastes*  
*Alsophis vudii aterrimus*  
*Epicrates exsul*

12.b Mangrove Cay12.c Wood Cay

*Leiocephalus carinatus armouri*

12.d Sandy Cay12.e Memory Rock12.f Triangle Rocks12.g Walkers Cay12.h Grand Cays12.i Sales Cay12.j Strangers Cay

*Osteopilus septentrionalis*  
*Anolis sagrei ordinatus*  
*Leiocephalus carinatus armouri*  
*Sphaerodactylus notatus peltastes*

12.k Great Abaco Island

*Eleutherodactylus p. planirostris*  
*Osteopilus septentrionalis*  
*Anolis sagrei ordinatus*  
*Leiocephalus carinatus armouri*  
*Sphaerodactylus notatus peltastes*  
*Alsophis vudii aterrimus*  
*Epicrates exsul*

12.l Little Abaco Island

*Eleutherodactylus p. planirostris*  
*Osteopilus septentrionalis*  
*Anolis sagrei ordinatus*

Little Abaco Island cont.

*Leiocephalus carinatus armouri*  
*Sphaerodactylus notatus peltastes*  
*Epicrates exsul*

12.m Umbrella Cay12.n Spanish Cay12.o Powell Cay12.p Numjack Cay12.q Green Turtle Cay

*Leiocephalus carinatus armouri*

12.r Whale Cay12.s Great Guana Cay12.t Man of War Cay12.u Elbow Cay

*Osteopilus septentrionalis*  
*Anolis sagrei ordinatus*  
*Leiocephalus carinatus armouri*  
*Sphaerodactylus notatus peltastes*  
*Epicrates exsul*

12.v Tilloo Cay12.w Gorda Cay12.x Moors (=Mores?) Island

*Sphaerodactylus notatus peltastes*

12.y Burrows Cay12.z Sweetings Cay12.aa Pensacola Cays

*Osteopilus septentrionalis*  
*Anolis sagrei ordinatus*  
*Leiocephalus carinatus armouri*  
*Sphaerodactylus notatus peltastes*

12.bb Little Sale Cay

*Leiocephalus carinatus armouri*

12.cc Water Cay

*Sphaerodactylus notatus peltastes*

GREAT BAHAMA BANK12.a Andros Island

*Eleutherodactylus planirostris rogersi*  
*Osteopilus septentrionalis*  
*Rana grylio*  
*Chrysemys felis*  
*Ameiva auberi kingi*  
*Anolis angusticeps oligaspis*  
*Anolis distichus distichoides*  
*Anolis sagrei ordinatus*  
*Anolis s. smaragdinus*  
*Cyclura c. cyclura*  
*Leiocephalus carinatus coryi*  
*?Sphaerodactylus copei cataplexis*  
*Sphaerodactylus nigropunctatus flavicauda*  
*Sphaerodactylus notatus amaurus*.  
*Tarentola americana warreni*  
*Alsophis vudii vudii*  
*Epicrates striatus fowleri*  
*Tropidophis canus androsi*  
*Typhlops b. biminiensis*

13.b Gibson Cay

*Ameiva auberi kingi*

13.c Mangrove Cay

*Sphaerodactylus nigropunctatus flavicauda*

13.d Dolly Cay13.e Curly Cut Cays13.f Yellow Cay13.g Big Wood Cay13.h High Cay13.i Saddleback Cay13.j Chub Cay

*Ameiva auberi multilineata*

*Anolis sagrei ordinatus*

*Sphaerodactylus nigropunctatus flavicauda*

Chub Cay cont.

*Sphaerodactylus notatus amaurus*  
*Epicrates striatus fowleri*

13.k Whale Cay13.l Bonds Cay

*Ameiva auberi multilineata*

13.m Little Harbour Cay

*Ameiva auberi multilineata*

13.n Holmes Cay13.o Great Harbour Cay

*Eleutherodactylus planirostris rogersi*    *Sphaerodactylus argus argus*  
*Osteopilus septentrionalis*                      *Epicrates striatus fosteri*  
*Ameiva auberi multilineata*  
*Anolis distichus distichoides*  
*Anolis sagrei ordinatus*  
*Anolis s. smaragdinus*  
*Leiocephalus carinatus coryi*  
*Sphaerodactylus nigropunctatus flavicauda*  
*Sphaerodactylus notatus amaurus*  
*Alsophis vudii vudii*  
*Epicrates striatus fowleri*

13.p Great Stirrup Cay13.q Frazer's Hog Cay

*Osteopilus septentrionalis*  
*Ameiva auberi multilineata*  
*Anolis angusticeps oligaspis*  
*Anolis distichus distichoides*  
*Anolis sagrei ordinatus*  
*Anolis s. smaragdinus*  
*Leiocephalus carinatus coryi*  
*Sphaerodactylus nigropunctatus flavicauda*  
*Sphaerodactylus notatus amaurus*

13.r Cistern Cay

*Ameiva auberi multilineata*

13.s Devil's Cay

*Ameiva auberi multilineata*  
*Leiocephalus carinatus coryi*

13.t Cat Cay

*Leiocephalus carinatus coryi*

13.u Middle Isaac13.v Little Isaac13.w East Brother13.x Great Isaac13.y North Bimini

*Ameiva auberi richmondi*  
*Anolis angusticeps oligaspis*  
*Anolis sagrei ordinatus*  
*Anolis smaragdinus lernerii*  
*Leiocephalus carinatus coryi*  
*Eleutherodactylus p. planirostris*  
*Osteopilus septentrionalis*  
*Ameiva auberi richmondi*  
*Anolis angusticeps oligaspis*  
*Anolis distichus biminiensis*  
*Anolis sagrei ordinatus*  
*Anolis smaragdinus lernerii*  
*Leiocephalus carinatus coryi*  
*Sphaerodactylus nigropunctatus flavicauda*  
*Sphaerodactylus notatus amaurus*  
*Epicrates striatus fosteri*  
*Tropidophis canus curtus*  
*Typhlops b. biminiensis*

13.z South Bimini

*Eleutherodactylus p. planirostris*  
*Osteopilus septentrionalis*  
*Ameiva auberi richmondi*  
*Anolis angusticeps oligaspis*  
*Anolis distichus biminiensis*  
*Anolis sagrei ordinatus*  
*Anolis smaragdinus lernerii*  
*Leiocephalus carinatus coryi*  
*Sphaerodactylus nigropunctatus flavicauda*  
*Sphaerodactylus notatus amaurus*  
*Epicrates striatus fosteri*  
*Tropidophis canus curtus*  
*Typhlops b. biminiensis*

13.aa East Bimini

*Ameiva auberi richmondi*  
*Leiocephalus carinatus coryi*

13.bb Easter Cay

*Ameiva auberi richmondi*  
*Leiocephalus carinatus coryi*  
*Epicrates striatus fosteri*

13.cc Holm Island

<u>13.dd Gun Cay</u>	<u>13.oo Knife Cay</u>
<i>Ameiva auberi richmondi</i>	<i>Anolis sagrei ordinatus</i>
<i>Tropidophis canus curtus</i>	<i>Leiocephalus carinatus hodsdoni</i>
<u>13.ee North Cat Cay</u>	<u>13.pp South Channel Cay</u>
<i>Anolis sagrei ordinatus</i>	<i>Leiocephalus carinatus hodsdoni</i>
<i>Anolis smaragdinus lernerii</i>	
<u>13.ff South Cat Cay</u>	<u>13.qq Johnson Cay</u>
<i>Ameiva auberi richmondi</i>	<i>Leiocephalus carinatus hodsdoni</i>
<u>13.gg Browns Cay</u>	<u>13.rr Maycock Cay</u>
	<i>Sphaerodactylus notatus amaurus</i>
<u>13.hh Orange Cay</u>	<u>13.ss Margaret Cay</u>
	<i>Epicrates striatus mccraniei</i>
<u>13.ii Cay Lobos</u>	<u>13.tt Racoon Cay</u>
	<u>13.uu Bonavista Cay</u>
<u>13.jj Santo Domingo Cay</u>	<u>13.vv Nurse Cay</u>
<u>13.kk Cay Verde</u>	<u>13.ww Sister Cays</u>
<i>Leiocephalus carinatus hodsdoni</i>	<u>13.xx Seal Cays</u>
<u>13.ll Great Ragged Island</u>	<u>13.yy Jamaica Cay</u>
<i>Ameiva auberi bilateralis</i>	<u>13.zz Man of War Cay</u>
<i>Anolis distichus distichus</i>	
<i>Anolis sagrei ordinatus</i>	
<i>Sphaerodactylus nigropunctatus porrasi</i>	<u>13.ab Flamingo Cay</u>
<i>Sphaerodactylus notatus amaurus</i>	
<i>Tarentola americana warreni</i>	<i>Anolis s. smaragdinus</i>
<i>Tropidophis canus barbouri</i>	<i>Leiocephalus carinatus hodsdoni</i>
<i>Anolis s. smaragdinus</i>	
<u>13.mm Hog Island</u>	<u>13.ac Water Cay</u>
<i>Ameiva auberi bilateralis</i>	<u>13.ad Violet Cay, off Long Island</u>
<u>13.nn Little Ragged Island</u>	<i>Leiocephalus carinatus hodsdoni</i>
<i>Ameiva auberi bilateralis</i>	<u>13.ae Long Island</u>
<i>Anolis distichus distichus</i>	<i>Eleutherodactylus planirostris rogersi</i>
<i>Anolis sagrei ordinatus</i>	<i>Osteopilus septentrionalis</i>
<i>Anolis s. smaragdinus</i>	<i>Ameiva auberi obsoleta</i>
<i>Leiocephalus carinatus hodsdoni</i>	<i>Anolis angusticeps oligaspis</i>
<i>Sphaerodactylus nigropunctatus porrasi</i>	<i>Anolis distichus distichus</i>
<i>Sphaerodactylus notatus amaurus</i>	
<i>Tarentola americana warreni</i>	
<i>Alsophis vudii vudii</i>	
<i>Epicrates striatus mccraniei</i>	
<i>Typhlops b. biminiensis</i>	

Long Island cont.

*Anolis sagrei ordinatus*  
*Anolis s. smaragdinus*  
*Leiocephalus carinatus hodsdoni*  
*Sphaerodactylus nigropunctatus gibbus*  
*Sphaerodactylus notatus amaurus*  
*Tarentola americana warreni*  
*Alsophis vudii vudii*  
*Epicrates striatus strigilatus*  
*Tropidophis canus barbouri*

13.af Great Exuma Island

*Eleutherodactylus planirostris rogersi*  
*Osteopilus septentrionalis*  
*Ameiva auberi obsoleta*  
*Anolis angusticeps oligaspis*  
*Anolis distichus distichus*  
*Anolis sagrei ordinatus*  
*Anolis s. smaragdinus*  
*Leiocephalus carinatus virescens*  
*Sphaerodactylus nigropunctatus gibbus*  
*Sphaerodactylus notatus amaurus*  
*Alsophis vudii vudii*  
*Epicrates striatus strigilatus*

13.ag Hog Cay13.ah Compass Cay

*Eleutherodactylus planirostris rogersi*  
*Ameiva auberi obsoleta*  
*Anolis s. smaragdinus*  
*Leiocephalus carinatus virescens*  
*Sphaerodactylus nigropunctatus gibbus*  
*Sphaerodactylus notatus amaurus*  
*Epicrates striatus strigilatus*

13.ai Staniel Cay

*Eleutherodactylus planirostris rogersi*  
*Ameiva auberi obsoleta*  
*Anolis distichus distichus*  
*Anolis sagrei ordinatus*  
*Anolis s. smaragdinus*  
*Sphaerodactylus nigropunctatus gibbus*  
*Sphaerodactylus notatus amaurus*  
*Tropidophis canus barbouri*

13.aj Little Exuma Island

*Eleutherodactylus planirostris rogersi*  
*Ameiva auberi obsoleta*  
*Anolis distichus distichus*  
*Anolis sagrei ordinatus*  
*Sphaerodactylus nigropunctatus gibbus*  
*Sphaerodactylus notatus amaurus*  
*Tropidophis canus barbouri*

13.ak Pipe Cay

*Osteopilus septentrionalis*  
*Sphaerodactylus notatus amaurus*  
*Tropidophis canus barbouri*

13.al Warderick Wells Cay

*Ameiva auberi obsoleta*  
*Anolis distichus distichus*  
*Leiocephalus carinatus virescens*  
*Sphaerodactylus nigropunctatus gibbus*  
*Tarentola americana warreni*

13.am Sampson Cay

*Ameiva auberi obsoleta*  
*Anolis s. smaragdinus*  
*Sphaerodactylus nigropunctatus gibbus*

13.an Cave Cay

*Ameiva auberi obsoleta*  
*Sphaerodactylus nigropunctatus gibbus*

13.ao Elizabeth Island

*Ameiva auberi obsoleta*  
*Leiocephalus carinatus virescens*

13.ap Leaf Cay

*Anolis sagrei ordinatus*  
*Leiocephalus carinatus virescens*  
*Sphaerodactylus nigropunctatus*  
*n./gibbus intergrade*  
*Tarentola americana warreni*

13.aq Prickly Pear Cay

*Cyclura cychlura figginsi*

<u>13.ar Allen Cay</u>	<u>13.bf Barraterre Island</u>
<i>Cyclura cychlura figginsi</i>	<u>13.bg Lee Stocking Island</u>
<u>13.as Guana Cay, N end Norman's Pond Cay</u>	<u>13.bh Great Guana Cay (=Guana Cay?)</u>
<i>Cyclura cychlura figginsi</i>	<i>Cyclura cychlura figginsi</i>
<u>13.at Ozie Cay</u>	<i>Leiocephalus carinatus hodsdoni</i> <i>Sphaerodactylus nigropunctatus gibbus</i>
? <i>Cyclura cychlura figginsi</i>	<u>13.bi Bitter Guana Cay</u>
<u>13.au Gaulin Cay</u>	<i>Ameiva auberi obsoleta</i> <i>Anolis sagrei ordinatus</i> <i>Cyclura cychlura figginsi</i>
<i>Cyclura cychlura figginsi</i>	
<u>13.av White Cay</u>	<u>13.bj Bell Island</u>
<i>Cyclura rileyi cristata</i>	<i>Ameiva auberi obsoleta</i>
<u>13.aw S.W. Allan's Cay</u>	<u>13.bk Concepcion Island</u>
<i>Leiocephalus carinatus virescens</i> <i>Tarentola americana warreni</i>	<i>Osteopilus septentrionalis</i>
<u>13.ax Triple Cay</u>	<u>13.bl Shroud Cays</u>
<i>Leiocephalus carinatus virescens</i>	<u>13.bm Norman Cay</u>
<u>13/ay Big Farmers Cay</u>	<u>13.bn Ship Channel Cay</u>
<i>Sphaerodactylus nigropunctatus gibbus</i>	<i>Ameiva auberi focalis</i> <i>Anolis s. smaragdinus</i> <i>Leiocephalus carinatus virescens</i>
<u>13.az Jewfish Cay</u>	<u>13.bo New Providence Island</u>
<i>Sphaerodactylus nigropunctatus gibbus</i> <i>Sphaerodactylus notatus amaurus</i> <i>Alsophis vudii vudii</i>	<i>Osteopilus septentrionalis</i> <i>Rana grylio</i> <i>Ameiva auberi thoracica</i> <i>Anolis angusticeps oligaspis</i> <i>Anolis distichus distichus</i> <i>Anolis sagrei ordinatus</i> <i>Anolis s. smaragdinus</i> <i>Sphaerodactylus argus argus</i> <i>Sphaerodactylus copei cataplexis</i> <i>Sphaerodactylus n. nigropunctatus</i> <i>Sphaerodactylus notatus amaurus</i> <i>Alsophis vudii vudii</i>
<u>13.ba Little Norman's Cay</u>	
<i>Sphaerodactylus nigropunctatus</i> n./ <i>gibbus</i> intergrade	<i>Epicrates striatus strigilatus</i> <i>Tropidophis canus curtus</i>
<u>13.bc Rocky Dundas</u>	<i>Typhlops b. biminiensis</i>
<i>Alsophis vudii vudii</i>	
<u>13.bd Darby Island</u>	<u>13.bp Rose Island</u>
<i>Eleutherodactylus planirostris rogersi</i> <i>Anolis distichus distichus</i> <i>Sphaerodactylus nigropunctatus gibbus</i>	<i>Ameiva auberi thoracica</i> <i>Sphaerodactylus n. nigropunctatus</i> <i>Epicrates striatus strigilatus</i>
<u>13.be Stocking Island</u>	
<i>Sphaerodactylus nigropunctatus gibbus</i>	

13.bq Paradise Cay

Alsophis vudii vudii

13.br Pimlico Island13.bs Egg Island13.bt Royal Island13.bu Eleuthera Island

*Eleutherodactylus p. planirostris*  
*Osteopilus septentrionalis*  
*Chrysemys felis*  
*Ameiva auberi thoracica*  
*Anolis angusticeps oligaspis*  
*Anolis distichus dapsilis*  
*Anolis sagrei ordinatus*  
*Anolis s. smaragdinus*  
*Leiocephalus carinatus virescens*  
*Sphaerodactylus n. nigropunctatus*  
*Sphaerodactylus notatus amaurus*  
*Tarentola americana warreni*  
*Alsophis vudii vudii*  
*Epicrates striatus strigilatus*  
*Tropidophis canus barbouri*

13.bv Harbour Island13.bw Current Island13.bx Little San Salvador Island

Ameiva auberi thoracica

13.by Goat Cay

Leiocephalus carinatus hodsdoni

13.bz Pinders Cay

Leiocephalus carinatus hodsdoni

13.ca Cat Island

*Eleutherodactylus planirostris rogersi*  
*Osteopilus septentrionalis*  
*Chrysemys felis*  
*Ameiva auberi felis*  
*Anolis angusticeps oligaspis*  
*Anolis distichus*  
*Anolis sagrei ordinatus*

Anolis s. smaragdinus

*Leiocephalus carinatus hodsdoni*  
*Sphaerodactylus nigropunctatus*  
*Sphaerodactylus notatus amaurus*  
*Alsophis vudii vudii*  
*Epicrates striatus ailurus*  
*Tropidophis canus barbouri*

13.cb Alligator Cay

Epicrates striatus ailurus

13.cd Green Cay

*Eleutherodactylus planirostris rogersi*  
*Anolis sagrei ordinatus*  
*Leiocephalus carinatus virescens*  
*Sphaerodactylus nigropunctatus gibbus*  
*Sphaerodactylus notatus amaurus*  
*Alsophis vudii vudii*

14.a Conception Island

Osteopilus septentrionalis

14.b Rum Cay

*Osteopilus septentrionalis*  
*Anolis distichus ocior*  
*Anolis sagrei ordinatus*  
*Leiocephalus l. loxogrammus*  
*Sphaerodactylus c. corticola*  
*Sphaerodactylus nigropunctatus decoratus*

14.c San Salvador Island

*Eleutherodactylus planirostris rogersi*  
*Osteopilus septentrionalis*  
*Anolis distichus ocior*  
*Anolis sagrei ordinatus*  
*Cyclura rileyi rileyi*  
*Leiocephalus loxogrammus parnelli*  
*Sphaerodactylus corticola soter*  
*Leptotyphlops columbi*

14.d Man Head Cay

*Anolis distichus ocior*  
*Cyclura rileyi rileyi*  
*Sphaerodactylus corticola soter*

14.e Green Cay

*Anolis distichus ocior*  
*Cyclura rileyi rileyi*  
*Sphaerodactylus corticola soter*

14.f Low Cay

*Sphaerodactylus corticola soter*

14.g Samana Cay

*Anolis scriptus sularum*  
*Leiocephalus punctatus*

14.h Booby Cay off Samana

*Anolis scriptus sularum*

14.i Long Cay14.j Crooked Island

*Osteopilus septentrionalis*  
*Anolis brunneus*  
*Leiocephalus punctatus*  
*Sphaerodactylus corticola campter*  
*Alsophis vudii raineyi*  
*Epicrates chrysogaster schwartzi*

14.k Goat Cay

*Leiocephalus punctatus*

14.l Acklins Island

*Osteopilus septentrionalis*  
*Anolis brunneus*  
*Leiocephalus punctatus*  
*Sphaerodactylus corticola campter*  
*Alsophis vudii raineyi*  
*Epicrates chrysogaster schwartzi*

14.m Fortune Island

*Anolis brunneus*  
*Cyclura rileyi nuchalis*  
*Leiocephalus punctatus*  
*Sphaerodactylus corticola campter*

14.n Fish Cay

*Cyclura rileyi nuchalis*  
*Leiocephalus punctatus*  
*Sphaerodactylus corticola campter*

14.o North Cay

*Cyclura rileyi nuchalis*  
*Leiocephalus punctatus*  
*Sphaerodactylus corticola campter*

14.p Castle Island

*Anolis brunneus*  
*Leiocephalus punctatus*  
*Sphaerodactylus corticola campter*

14.q Mira por Vos Cays

*Leiocephalus punctatus*

14.r West Plana Cay

*Anolis scriptus sularum*

14.s East Plana Cay

*Anolis brunneus*  
*Leiocephalus greenwayi*  
*Sphaerodactylus corticola apporox*

14.t Mayaguana Island

*Anolis scriptus mariguanae*  
*Sphaerodactylus mariguanae*

14.u Booby Cay off Mayaguana

*Anolis scriptus mariguanae*  
*Cyclura carinata bartschi*  
*Sphaerodactylus mariguanae*

14.v Guana Cay

*Leiocephalus punctatus*

15.a Great Inagua Island

?*Eleutherodactylus p. planirostris*  
*Osteopilus septentrionalis*  
*Chrysemys malonei*  
*Ameiva m. maynardi*  
*Ameiva maynardi uniformis*  
*Anolis scriptus leucophaeus*  
*Aristelliger barbouri*  
*Leiocephalus inaguae*  
*Sphaerodactylus inaguae*  
*Sphaerodactylus notatus atactus*  
*Alsophis vudii utowanae*

Great Inagua Island cont.

*Epicrates chrysogaster relicquus*  
*Tropidophis canus canus*  
*Typhlops biminiensis paradoxus*

15.b Little Inagua Island

*Ameiva maynardi parvinaguae*  
*Anolis scriptus leucophaeus*  
*Aristelliger barbouri*  
*?Antillophis parvifrons*

15.c Sheep Cay

*Anolis scriptus leucophaeus*  
*Aristelliger barbouri*  
*Sphaerodactylus inaguae*  
*Alsophis vudii utowanae*  
*Epicrates chrysogaster reliquus*

## CAICOS ISLANDS

16a. West Caicos Island

*Anolis scriptus scriptus*  
*Leiocephalus psammodyromus*  
*Sphaerodactylus caicosensis*

16b. French Cay

*Anolis scriptus scriptus*

16.c Fort George Cay

*Anolis scriptus scriptus*  
*Cyclura carinata carinata*  
*Leiocephalus psammodyromus cacodoxus*

16.d Providenciales Island

*Anolis scriptus scriptus*  
*Leiocephalus psammodyromus cacodoxus*  
*Mabuya mabouya sloanei*  
*Sphaerodactylus caicosensis*

16.e Sugar Loaf Island

*Leiocephalus psammodyromus cacodoxus*

16.f Bay Cay

*Anolis scriptus scriptus*  
*Mabuya mabouya sloanei*  
*Sphaerodactylus caicosensis*

16.g Water Cay

*Anolis scriptus scriptus*  
*Leiocephalus psammodyromus hyphantus*  
*Sphaerodactylus caicosensis*

16.h Little Water Cay

*Sphaerodactylus caicosensis*

16.i Pine Cay

*Anolis scriptus scriptus*  
*Cyclura carinata carinata*  
*Leiocephalus psammodyromus hyphantus*  
*Sphaerodactylus caicosensis*

16.j Stubb Cay

*Leiocephalus psammodyromus hyphantus*

16.k Dellis Cay

*Anolis scriptus scriptus*  
*Leiocephalus psammodyromus*  
*Sphaerodactylus caicosensis*

16.l Parrot Cay

*Anolis scriptus scriptus*  
*Leiocephalus psammodyromus*  
*Sphaerodactylus caicosensis*

16.m North Caicos Island

*Anolis scriptus scriptus*  
*Cyclura carinata carinata*  
*Leiocephalus psammodyromus*  
*Mabuya mabouya sloanei*  
*Sphaerodactylus caicosensis*  
*Epicrates c. chrysogaster*  
*Tropidophis greenwayi lanthanus*  
*Typhlops richardi*

16.n Middle Caicos Island

*Anolis scriptus scriptus*  
*Leiocephalus psammodyromus*

Middle Caicos Island cont.

*Mabuya mabouya sloanei*  
*Sphaerodactylus caicosensis*  
*Epicrates c. chrysogaster*  
*Tropidophis greenwayi lanthanus*

16.o Pelican Cay

*Anolis scriptus scriptus*  
*Sphaerodactylus caicosensis*

16.p East Caicos Island

*Anolis scriptus scriptus*  
*Leiocephalus psammodyromus*  
*Mabuya mabouya sloanei*  
*Sphaerodactylus caicosensis*

16.q Big Iguana Cay

*Cyclura carinata carinata*

16.r South Caicos Island

*Anolis scriptus scriptus*  
*Mabuya mabouya sloanei*  
*Sphaerodactylus caicosensis*  
*Tropidophis greenwayi lanthanus*

16.s Long Cay off S. Caicos

*Cyclura carinata carinata*  
*Leiocephalus psammodyromus mounax*  
*Mabuya mabouya sloanei*  
*Sphaerodactylus caicosensis*  
*Epicrates c. chrysogaster*  
*Tropidophis greenwayi lanthanus*

16.t Middleton Cay

*Sphaerodactylus caicosensis*  
*Tropidophis greenwayi lanthanus*

16.u Six Hill Cays

*Anolis scriptus scriptus*  
*Mabuya mabouya sloanei*  
*Sphaerodactylus caicosensis*

16.v Big Ambergris Cay

*Anolis scriptus scriptus*

*Cyclura carinata carinata*  
*Leiocephalus psammodyromus apocrinus*  
*Sphaerodactylus caicosensis*  
*Epicrates c. chrysogaster*  
*Tropidophis g. greenwayi*

16.w Little Ambergris Cay

*Anolis scriptus scriptus*  
*Cyclura carinata carinata*  
*Leiocephalus psammodyromus apocrinus*  
*Mabuya mabouya sloanei*  
*Epicrates c. chrysogaster*

## TURKS ISLANDS

16.x Grand Turk Island

*Anolis scriptus scriptus*  
*Mabuya mabouya sloanei*  
*Sphaerodactylus mariguanae*  
*Sphaerodactylus underwoodi*  
*?Epicrates c. chrysogaster*

16.y Long Cay

*Anolis scriptus scriptus*  
*Cyclura carinata carinata*  
*Leiocephalus psammodyromus aphretor*  
*Sphaerodactylus underwoodi*

16.z Cotton Cay

*Anolis scriptus scriptus*

16\_aa East Cay

*Anolis scriptus scriptus*  
*Leiocephalus psammodyromus*  
*Sphaerodactylus underwoodi*

16.bb Salt Cay

*Anolis scriptus scriptus*  
*Sphaerodactylus underwoodi*

16.cc Big Sand Cay

*Cyclura carinata carinata*  
*Leiocephalus p. psammodyromus*  
*Sphaerodactylus underwoodi*

16.dd Bastion Cay

*Leiocephalus p. psammodyromus*

16.ee Gibbs Cay

*Leiocephalus psammodyromus*

*Mabuya mabouya sloanei*

16.ff Pear Cay

*Leiocephalus psammodyromus*

*Sphaerodactylus underwoodi*

*Typhlops richardi*

17. Navassa

*Ameiva taeniura navassae*

*Anolis longiceps*

*Aristelliger c. cochranae*

*Cyclura cornuta onchiopsis*

*Diploglossus costatus badius*

*Leiocephalus eremitus*

*Sphaerodactylus becki*

*Tropidophis melanurus bucculentus*

18.a Hispaniola (76470km<sup>2</sup>; 3122m)

*Bufo fluviaticus*

*Bufo guntheri guntheri*

*Bufo guntheri fractus*

*Bufo marinus*

*Eleutherodactylus abbotti*

*Eleutherodactylus alcoae*

*Eleutherodactylus apostates*

*Eleutherodactylus armstrongi*

*Eleutherodactylus audanti audanti*

*Eleutherodactylus audanti melatrigonum*

*Eleutherodactylus audanti notidodes*

*Eleutherodactylus auriculatoides*

*Eleutherodactylus bakeri*

*Eleutherodactylus brevirostris*

*Eleutherodactylus counouspeus*

*Eleutherodactylus darlingtoni*

*Eleutherodactylus eunaster*

*Eleutherodactylus flavescens*

*Eleutherodactylus fowleri*

*Eleutherodactylus furcyensis*

*Eleutherodactylus glandulifer*

*Eleutherodactylus glanduliferoides*

*Eleutherodactylus glaphycompus*

*Eleutherodactylus haitianus*

*Eleutherodactylus heminota*

*Eleutherodactylus hypostenor*

*Eleutherodactylus inoptatus*

*Eleutherodactylus jugans*

*Eleutherodactylus lamprotes*

*Eleutherodactylus leoncei*

*Eleutherodactylus minutus*

*Eleutherodactylus montanus*

*Eleutherodactylus neodreptus*

*Eleutherodactylus oxyrhynchus*

*Eleutherodactylus parabates*

*Eleutherodactylus patriciae*

*Eleutherodactylus paulsoni*

*Eleutherodactylus p. pictissimus*

*Eleutherodactylus pictissimus apantheatus*

*Eleutherodactylus pictissimus eremus*

*Eleutherodactylus pituinus*

*Eleutherodactylus poolei*

*Eleutherodactylus probolaeus*

*Eleutherodactylus rufifemoralis*

*Eleutherodactylus ruthae ruthae*

*Eleutherodactylus ruthae aporostegus*

*Eleutherodactylus ruthae bothroboans*

*Eleutherodactylus ruthae tychathrous*

*Eleutherodactylus s. schmidti*

*Eleutherodactylus schmidti limbensis*

*Eleutherodactylus schmidti rucillensis*

*Eleutherodactylus sciagraphus*

*Eleutherodactylus semipalmatus*

*Eleutherodactylus ventrilineatus*

*Eleutherodactylus w. weinlandi*

*Eleutherodactylus weinlandi chersonesodes*

*Eleutherodactylus w. wetmorei*

*Eleutherodactylus wetmorei ceraemerus*

*Eleutherodactylus wetmorei diplasius*

*Hyla heilprini*

*Hyla pulchrilineata*

*Leptodactylus dominicensis*

*Osteopilus dominicensis*

*Rana catesbeiana*

*Chrysemys decorata*

*Chrysemys decussata vicina*

*Ameiva c. chrysolaema*

*Ameiva chrysolaema alacris*

*Ameiva chrysolaema boekeri*

*Ameiva chrysolaema defensor*

*Ameiva chrysolaema evulsa*

*Ameiva chrysolaema ficta*

*Ameiva chrysolaema jacta*

*Ameiva chrysolaema parvoris*

*Ameiva chrysolaema procax*

Hispaniola, continued

*Ameiva chrysolaema quadrijugis*  
*Ameiva chrysolaema regularis*  
*Ameiva chrysolaema umbratilis*  
*Ameiva leberi*  
*Ameiva lineolata lineolata*  
*Ameiva lineolata meracula*  
*Ameiva lineolata perplicata*  
*Ameiva lineolata privigna*  
*Ameiva taeniura taeniura*  
*Ameiva taeniura azuae*  
*Ameiva taeniura barbouri*  
*Ameiva taeniura ignobilis*  
*Ameiva taeniura meyerabichi*  
*Ameiva taeniura regnatrix*  
*Ameiva taeniura tofacea*  
*Ameiva taeniura vafra*  
*Ameiva taeniura varica*  
*Ameiva taeniura vulvanalis*  
*Anolis aliniger*  
*Anolis bahorucoensis*  
*Anolis baleatus baleatus*  
*Anolis baleatus caeruleolatus*  
*Anolis baleatus fraudator*  
*Anolis baleatus litorisilva*  
*Anolis baleatus multistruppus*  
*Anolis baleatus samanae*  
*Anolis baleatus scelestus*  
*Anolis balaetus sublimis*  
*Anolis barahonae barahonae*  
*Anolis barahonae albocellatus*  
*Anolis brevirostris brevirostris*  
*Anolis chlorocyanus chlorocyanus*  
*Anolis chlorocyanus cyanostictus*  
*Anolis christophei*  
*Anolis coelestinus coelestinus*  
*Anolis cristatellus cristatellus*  
*Anolis cybotes cybotes*  
*Anolis cybotes armouri*  
*Anolis cybotes haetianus*  
*Anolis darlingtoni*  
*Anolis distichus aurifer*  
*Anolis distichus dominicensis*  
*Anolis distichus favillarum*  
*Anolis distichus ignigularis*  
*Anolis distichus properus*  
*Anolis distichus ravitergum*  
*Anolis distichus suppar*  
*Anolis distichus vinosus*  
*Anolis dolichocephalus*  
*Anolis etheridgei*  
*Anolis fowleri*  
*Anolis hendersoni*  
*Anolis insolitus*  
*Anolis koopmani*  
*Anolis longitibialis*  
*Anolis marcanoi*  
*Anolis monticola monticola*  
*Anolis monticola quadrisartus*  
*Anolis olssoni*  
*Anolis porcatus*  
*Anolis ricordi ricordi*  
*Anolis ricordi leberi*  
*Anolis ricordi subsolanus*  
*Anolis ricordi viculus*  
*Anolis rimarum*  
*Anolis rupinae*  
*Anolis semilineatus*  
*Anolis sheplani*  
*Anolis shrevei*  
*Anolis singularis*  
*Anolis whitemani*  
*Aristelliger cochranae expectatus*  
*Aristelliger lar*  
*Chamaelinorops barbouri*  
*Cyclura cornuta cornuta*  
*Cyclura ricordi*  
*Diploglossus agasepsoides*  
*Diploglossus costatus costatus*  
*Diploglossus costatus chalcorhabdus*  
*Diploglossus costatus leionotus*  
*Diploglossus costatus melanochrous*  
*Diploglossus costatus neiba*  
*Diploglossus costatus oreistes*  
*Diploglossus costatus psychonothes*  
*Diploglossus curtissi curtissi*  
*Diploglossus curtissi aporus*  
*Diploglossus curtissi diastatus*  
*Diploglossus curtissi hylonomus*  
*Diploglossus darlingtoni*  
*Diploglossus sepsoides*  
*Diploglossus stenurus stenurus*  
*Diploglossus stenurus alloides*  
*Diploglossus stenurus rugosus*  
*Diploglossus stenurus weinlandi*  
*Diploglossus warreni*  
*Hemidactylus brooki haetianus*  
*Hemidactylus matouia*  
*Leiocephalus b. barahonensis*  
*Leiocephalus barahonensis aureus*  
*Leiocephalus barahonensis oxygaster*  
*Leiocephalus lunatus lunatus*  
*Leiocephalus lunatus arenicolor*  
*Leiocephalus lunatus lewisi*  
*Leiocephalus lunatus thomasi*  
*Leiocephalus m. melanochlorus*  
*Leiocephalus melanochlorus hypsistus*

Hispaniola, continued

<i>Leiocephalus p. personatus</i>	<i>Amphisbaena innocens</i>
<i>Leiocephalus personatus actites</i>	<i>Amphisbaena manni</i>
<i>Leiocephalus personatus agraulus</i>	<i>Alsophis anomalus</i>
<i>Leiocephalus personatus budeni</i>	<i>Alsophis melanichnus</i>
<i>Leiocephalus personatus mentalis</i>	<i>Antillophis p. parvifrons</i>
<i>Leiocephalus personatus poikilometes</i>	<i>Antillophis parvifrons lincolni</i>
<i>Leiocephalus personatus pyrrholaeus</i>	<i>Antillophis parvifrons niger</i>
<i>Leiocephalus personatus scalaris</i>	<i>Antillophis parvifrons paraniger</i>
<i>Leiocephalus personatus tarachodes</i>	<i>Antillophis parvifrons protenus</i>
<i>Leiocephalus personatus trujilloensis</i>	<i>Darlingtonia h. haetiana</i>
<i>Leiocephalus pratensis</i>	<i>Darlingtonia haetiana perfector</i>
<i>Leiocephalus s. schreibersi</i>	<i>Darlingtonia haetiana vaticinata</i>
<i>Leiocephalus semilineatus</i>	<i>Epicrates fordi fordi</i>
<i>Leiocephalus vinculum endomychus</i>	<i>Epicrates fordi agametus</i>
<i>Mabuya lineolata</i>	<i>Epicrates gracilis gracilis</i>
<i>Mabuya mabouya sloanei</i>	<i>Epicrates gracilis hapalus</i>
<i>Phyllodactylus ? wirshingi</i>	<i>Epicrates striatus striatus</i>
<i>Sphaerodactylus altavelensis brevirostratus</i>	<i>Epicrates striatus exagistus</i>
<i>Sphaerodactylus altavelensis enriquilloensis</i>	<i>Hypsirhynchus ferox ferox</i>
<i>Sphaerodactylus armstrongi</i>	<i>Hypsirhynchus ferox scalaris</i>
<i>Sphaerodactylus cinereus</i>	<i>Ialtris dorsalis</i>
<i>Sphaerodactylus clenchi</i>	<i>Ialtris parishi</i>
<i>Sphaerodactylus cochranae</i>	<i>Leptotyphlops pyrites</i>
<i>Sphaerodactylus copei copei</i>	<i>Tropidophis h. haetianus</i>
<i>Sphaerodactylus copei astreptus</i>	<i>Typhlops capitulata capitulata</i>
<i>Sphaerodactylus copei cataplexis</i>	<i>Typhlops hectus</i>
<i>Sphaerodactylus copei enochrus</i>	<i>Typhlops pusilla</i>
<i>Sphaerodactylus copei pelates</i>	<i>Typhlops sulcata</i>
<i>Sphaerodactylus copei picturatus</i>	<i>Typhlops syntherus</i>
<i>Sphaerodactylus copei websteri</i>	<i>Uromacer catesbyi catesbyi</i>
<i>Sphaerodactylus d. darlingtoni</i>	<i>Uromacer catesbyi hariolatus</i>
<i>Sphaerodactylus darlingtoni noblei</i>	<i>Uromacer catesbyi pampineus</i>
<i>Sphaerodactylus d. difficilis</i>	<i>Uromacer frenatus frenatus</i>
<i>Sphaerodactylus difficilis randi</i>	<i>Uromacer frenatus wetmorei</i>
<i>Sphaerodactylus elasmorphynchus</i>	<i>Uromacer oxyrhynchus</i>
<i>Sphaerodactylus lazelli</i>	<i>Crocodylus acutus</i>
<i>Sphaerodactylus leucaster</i>	
<i>Sphaerodactylus rhabdotus</i>	
<i>Sphaerodactylus samanensis</i>	
<i>Sphaerodactylus s. savagei</i>	
<i>Sphaerodactylus savagei juanilloensis</i>	<u>18.b Ile-a-Vache</u>
<i>Sphaerodactylus shrevei</i>	<i>Eleutherodactylus p. pictissimus</i>
<i>Sphaerodactylus stejnegeri</i>	<i>Osteopilus dominicensis</i>
<i>Wetmorena haetiana haetiana</i>	<i>Ameiva taeniura aequorea</i>
<i>Wetmorena haetiana mylica</i>	<i>Anolis coelestinus pecuarius</i>
<i>Wetmorena haetiana surda</i>	<i>Anolis cybotes cybotes</i>
<i>Amphisbaena caudalis</i>	<i>Anolis distichus juliae</i>
<i>Amphisbaena gonavensis hyporissor</i>	<i>Diploglossus costatus nesobous</i>
<i>Amphisbaena gonavensis leberi</i>	<i>Diploglossus stenurus stenurus</i>
	<i>Sphaerodactylus copei cataplexis</i>
	<i>Antillophis parvifrons roasmondae</i>
	<i>Epicrates striatus exagistus</i>
	<i>Ialtris dorsalis</i>
	<i>Uromacer catesbyi insulaevaccarum</i>
	<i>Uromacer frenatus frenatus</i>

18.c Ile Grande Cayemite

Osteopilus dominicensis  
 Ameiva taeniura pantamerinthus  
 Anolis coelestinus demissus  
 Anolis cybotes cybotes  
 Anolis distichus patruelis  
 ?Anolis monticola monticola  
 Anolis semilineatus  
 Aristelliger cochranae expextatus  
 Cyclura cornuta cornuta  
 Diploglossus sepsoides  
 Diploglossus stenurus  
 Sphaerodactylus cinereus  
 Sphaerodactylus copei polyommatus  
 Amphistaena caudalis  
 Amphisbaena innocens  
 Typhlops hectus  
 Typhlops sulcata  
 Typhlops pusilla  
 Uromacer catesbyi cereolineatus  
 Uromacer frenatus frenatus

18.d Grosse Caye

Ameiva t. taeniura  
 Uromacer frenatus frenatus

18.e Ile Petite Cayemite

Ameiva t. taeniura  
 ?Anolis distichus patruelis  
 Uromacer catesbyi cereolineatus  
 Uromacer frenatus frenatus

18.f Ile de la Gonave

Osteopilus dominicensis  
 Ameiva chrysolæma secessa  
 Ameiva taeniura barbouri  
 Anolis brevirostris caudalis  
 Anolis c. chlorocyanus  
 Anolis cybotes doris  
 Anolis olssoni  
 Anolis singularis  
 Aristelliger cochranae expectatus  
 Diploglossus c. curtissi  
 Diploglossus sepsoides  
 Leiocephalus v. vinculum  
 Sphaerodactylus cinereus  
 Sphaerodactylus copei deuterus  
 Amphisbaena g. gonavensis  
 Antillophis parvifrons alleni  
 Epicrates fordii fordii

Epicrates striatus striatus  
 Hypsirhynchus ferox paracrousis  
 Ialtris dorsalis  
 Tropidophis h. haetianus  
 Typhlops capitulata gonavensis  
 Typhlops pusilla  
 Typhlops sulcata  
 Uromacer catesbyi frondicolor

18.g Ile de la Petite Gonave

Anolis brevirostris caudalis  
 Cyclura cornuta cornuta  
 Amphisbaena g. gonavensis  
 Antillophis parvifrons alleni

18.h Iles Arcadins18.i Ile Careenage (Ibo Beach)18.j Ile de la Tortue

Eleutherodactylus inoptatus  
 Osteopilus dominicensis  
 Ameiva chrysolæma woodi  
 Anolis c. chlorocyanus  
 Anolis cybotes cybotes  
 Anolis semilineatus  
 Aristelliger cochranae expectatus  
 Cyclura cornuta cornuta  
 Diploglossus costatus emys  
 Diploglossus curtissi diastatus  
 Diploglossus warreni  
 Leiocephalus schreibersi nssomorus  
 Sphaerodactylus difficilis  
 Amphisbaena manni  
 Alsophis anomalus  
 Antillophis parvifrons tortuganus  
 Epicrates striatus warreni  
 Ialtris dorsalis  
 Tropidophis h. haetianus  
 Typhlops pusilla  
 Uromacer catesbyi scandax  
 Uromacer oxyrhynchus

18.k Limbe Island (Acul Bay)18.l Rat Island (Acul Bay)18.m Isla Cabras (Monti Cristi)

Ameiva chrysolæma regularis  
 Ameiva lineolata meracula  
 Leiocephalus personatus scalaris

18.n Cayo Levantado (Samana Bay)18.o Cayo Hondo (Samana Bay)

Anolis baleatus samanae

18.p Isla Pascal (Samana Bay)Anolis baleatus samanae  
Sphaerodactylus difficilis18.q Cayo Vigia (Samana Bay)18.r Cayo Paloma (Samana Bay)18.s Cayo Linares (Samana Bay)18.t Isla Saona

Osteopilus dominicensis  
 Ameiva chrysolaema richardthomasi  
 Ameiva taeniura rosamondae  
 Anolis baleatus  
 Anolis c. chlorocyanus  
 Anolis cybotes cybotes  
 Anolis distichus sejunctus  
 Cyclura cornuta cornuta  
 Diploglossus costatus saonae  
 Leiocephalus lunatus louisae  
 Sphaerodactylus savagei juanilloensis  
 Antillophis parvifrons stygius  
 Epicrates striatus striatus  
 Hypsirhynchus ferox exedrus  
 Typhlops pusilla  
 Uromacer catesbyi inchaustguii  
 Uromacer oxyrhynchus

18.u Isla Catalina

Ameiva chrysolaema parvoris  
 Ameiva lineolata semota  
 Ameiva taeniura  
 Anolis cybotes cybotes  
 Anolis distichus tostus  
 Diploglossus curtissi  
 Leiocephalus lunatus melaenacelis  
 Epicrates fordii  
 Typhlops pusilla  
 Uromacer catesbyi

18.v Isla Catalinita

Sphaerodactylus savagei

18.w Isla Beata

Ameiva chrysolaema abbotti  
 Ameiva lineolata beatensis  
 Anolis brevirostris wetmorei  
 Cyclura cornuta cornuta  
 Leiocephalus barahonensis beatanus  
 Alsophis anomalus  
 Uromacer frenatus wetmorei

18.x Isla Alto Velo

Anolis altavelensis  
 Aristelliger cochranae expectatus  
 Leiocephalus vinculum altavelensis  
 Sphaerodactylus a. altavelensis  
 Typhlops sulcata

18.y Isla Cabritos

Cyclura cornuta cornuta

18.z Islas Muertos

Ameiva chrysolaema regularis  
 Leiocephalus s. schreibersi  
 Sphaerodactylus difficilis

18.aa Toruru

Ameiva chrysolaema regularis  
 Leiocephalus s. schreibersi

18.bb Monte Chico

Ameiva chrysolaema regularis  
 Leiocephalus personatus scalaris  
 Sphaerodactylus difficilis

18.cc Cayo Monte Grande

Aristelliger lar  
 Diploglossus stenurus rugosus  
 Sphaerodactylus difficilis

18.dd Cayo Ratas

Leiocephalus s. schreibersi

18.ee Tercero

Ameiva chrysolaema regularis  
 Leiocephalus s. schreibersi

18.ff Ile a Cabrit

Ameiva lineolata lineolata  
 Anolis olssoni  
 Leiocephalus pratensis  
 Epicrates fordii fordii  
18.gg Cabritos (Lago Enriquillo)  
 Aristelliger cochranae expectatus  
 Cyclura ricordi

19.a Isla Mona

Eleutherodactylus monensis  
 Ameiva exsul alboguttata  
 Anolis monensis  
 Cyclura cornuta stejnegeri  
 Hemidactylus mabouia  
 Mabuya mabouya sloanei  
 Sphaerodactylus monensis  
 Alsophis portoricensis variegatus  
 Epicrates monensis monensis  
 Typhlops monensis

19.b Isla Monito

Anolis monensis  
 Mabuya mabouya sloanei  
 Sphaerodactylus ?monensis

19.c Isla Desecheo

Ameiva exsul desechensis  
 Sphaerodactylus levinsi  
 ?Alsophis portoricensis variegatus  
 Anolis c. cristatellus

20.a Puerto Rico (8897km<sup>2</sup>; 1333m)

Bufo lemur  
 Bufo marinus  
 Eleutherodactylus antillensis  
 Eleutherodactylus brittoni  
 Eleutherodactylus cochranae  
 Eleutherodactylus cooki  
 Eleutherodactylus coqui  
 Eleutherodactylus eneidae  
 Eleutherodactylus gryllus  
 Eleutherodactylus hedricki  
 Eleutherodactylus karlschmidti

Eleutherodactylus locustus  
 Eleutherodactylus portoricensis  
 Eleutherodactylus ramosi  
 Eleutherodactylus richmondi  
 Eleutherodactylus unicolor  
 Eleutherodactylus wightmanae  
 Hyla cinerea  
 Leptodactylus albilabris  
 Osteopilus septentrionalis  
 Rana catesbeiana  
 Chrysemys decussata stejnegeri  
 Ameiva exsul exsul  
 Ameiva wetmorei  
 Anolis cooki  
 Anolis c. cristatellus  
 Anolis curieri  
 Anolis evermanni  
 Anolis gundlachi  
 Anolis krugi  
 Anolis occultus  
 Anolis poncensis  
 Anolis pulchellus  
 Anolis stratulus  
 Diploglossus pleei  
 Hemidactylus brooki haitianus  
 Hemidactylus mabouia  
 Mabuya mabouya sloanei  
 Sphaerodactylus gaigeae  
 Sphaerodactylus klauberi  
 Sphaerodactylus macrolepis ateles  
 Sphaerodactylus macrolepis grandisquamis  
 Sphaerodactylus macrolepis guarionex  
 Sphaerodactylus macrolepis mimetes  
 Sphaerodactylus macrolepis phoberus  
 Sphaerodactylus macrolepis spanius  
 Sphaerodactylus n. nicholsi  
 Sphaerodactylus nicholsi townsendi  
 Sphaerodactylus roosevelti  
 Amphisbaena bakeri  
 Amphisbaena caeca  
 Amphisbaena schmidti  
 Amphisbaena xera  
 Alsophis p. portoricensis  
 Alsophis portoricensis prymnus  
 Arrhyton exiguum stahli  
 Arrhyton exiguum subspadix  
 Epicrates inornatus  
 Typhlops granti  
 Typhlops richardi platycephalus  
 Typhlops rostellata

P.R. SATELLITES (b through y)	<u>20.j Levin's Rock</u>
<u>20.b Cayo Cardona</u>	Ameiva exsul exsul
Ameiva exsul exsul Anolis c. cristatellus	<u>20.k Cayo Algodones</u>
<u>20.c Isla Caja de Muertos</u>	Ameiva exsul exsul
Ameiva exsul exsul Ameiva wetmorei Anolis cooki Anolis c. cristatellus Anolis pulchellus Sphaerodactylus nicholsi townsendi Sphaerodactylus roosevelti Amphisbaena xera Alsophis portoricensis prymnus Typhlops granti Typhlops richardi platycephalus	<u>20.l Isla Cabras</u>
<u>20.d Magueyes</u>	Ameiva exsul exsul Anolis cristatellus Anolis stratulus Sphaerodactylus gaigei Sphaerodactylus macrolepis stibarus Sphaerodactylus nicholsi townsendi Alsophis p. portoricensis
<u>20.e Cayo Berberia</u>	<u>20.n Cabeza de Perro</u>
<u>20.f Platillo (=Isla Morrillito)</u>	Ameiva exsul exsul
Ameiva exsul exsul Alsophis portoricensis prymnus	<u>20.o Isla de Ramos</u>
<u>20.g Isla de Cabras off San Juan</u>	Ameiva exsul exsul
Ameiva exsul exsul	<u>20.p Cayo Ahogado</u>
<u>20.h Cayo Batata</u>	Ameiva exsul exsul
Ameiva exsul exsul Anolis c. cristatellus Anolis pulchellus Sphaerodactylus macrolepis grandisquamis	<u>20.q Isleta Marina</u>
<u>20.i Cayo Santiago</u>	Ameiva exsul exsul Anolis cristatellus*
Leptodactylus albilabris Ameiva exsul exsul Anolis c. cristatellus Anolis pulchellus Anolis stratulus Sphaerodactylus gaigei Sphaerodactylus macrolepis grandisquamis Alsophis p. portoricensis Arrhyton exiguum stahli	<u>20.r Cayo Palominitos</u>
	Ameiva exsul exsul Anolis cristatellus Typhlops richardi platycephalus
	<u>20.s Cayo Palomino</u>
	Ameiva exsul exsul
	<u>20.t Cayo Icacos (=Hicacos)</u>
	Leptodactylus albilabris Ameiva exsul exsul

\*personal observation by WPM

Cayo Icacos (=Hicacos) cont.

*Anolis cristatellus*  
*Anolis pulchellus*  
*Mabuya mabouya sloanei*  
*Sphaerodactylus nicholsi townsendi*

120.u Konyoki

*Ameiva exsul exsul*

20.v Cayo Ratones

*Ameiva exsul exsul*  
*Anolis cristatellus\**

20.w Cayo Lobos

*Ameiva exsul exsul*  
*Sphaerodactylus nicholsi townsendi*

20.x Isla Blanquilla

*Ameiva exsul exsul*

20.y Cayo Diablo (=La Llave)

*Ameiva exsul exsul*  
*Anolis cristatellus*  
*Typhlops richardi platycephalus*

PASSAGE ISLANDS (z through ww)20.z Vieques

*Eleutherodactylus antillensis*  
*Eleutherodactylus cochranae*  
*Leptodactylus albilabris*  
*?Chrysemys decussata stejnegeri*  
*Ameiva exsul exsul*  
*Anolis cristatellus wileyae*  
*?Anolis cuvieri*  
*Anolis pulchellus*  
*Anolis stratulus*  
*Hemidactylus mabouia*  
*Mabuya mabouya sloanei*  
*Sphaerodactylus macrolepis inigoi*  
*Sphaerodactylus nicholsi townsendi*  
*?Sphaerodactylus roosevelti*  
*Alsophis portoricensis aphantus*  
*Typhlops richardi platycephalus*

20.aa Cayo de Tierra

*Ameiva exsul exsul*  
*Hemidactylus mabouia*  
*Sphaerodactylus macrolepis inigoi*  
*Sphaerodactylus nicholsi townsendi*  
*Typhlops richardi platycephalus*

20.bb Cayo de Afuera

*Ameiva exsul exsul*  
*Sphaerodactylus macrolepis inigoi*  
*Sphaerodactylus nicholsi townsendi*

20.cc Cayo Real20.dd Isla Chiva20.ee Little Island20.ff Culebra

*Eleutherodactylus antillensis*  
*Leptodactylus albilabris*  
*Ameiva exsul exsul*  
*Anolis cristatellus wileyae*  
*Anolis pulchellus*  
*Anolis roosevelti*  
*Anolis stratulus*  
*Mabuya mabouya sloanei*  
*Sphaerodactylus m. macrolepis*  
*?Sphaerodactylus nicholsi townsendi*  
*Alsophis portoricensis richardi*  
*Arrhyton exiguum exiguum*  
*Typhlops richardi platycephalus*

20.gg Culebrita

*Ameiva exsul exsul*  
*Anolis cristatellus wileyae*  
*Sphaerodactylus m. macrolepis*

20.hh Cayo Botella20.ii Cayo Norte

*Ameiva exsul exsul*

20.jj Cayo Geniqui

\*personal observation by WPM

<u>20.kk Cayo Tiburon</u>	<u>20.yy Bovoni Cay</u> (.194km <sup>2</sup> ;1m)
<u>20.ll Cayo Ballena</u>	<i>Eleutherodactylus cochranae</i> <i>Ameiva exsul exsul</i>
<u>20.mm Los Gemelos</u>	<i>Anolis cristatellus wileyae</i>
<u>20.nn Alcarraza</u>	<i>Anolis stratulus</i>
<u>20.oo Cayo Botijuela</u>	<i>Sphaerodactylus m. macrolepis</i>
<u>20.pp Cayo Lobito</u>	<u>20.zz Buck Island</u> (.168km <sup>2</sup> ;38m)
<u>20.qq Cayo Lobo</u>	<i>Anolis cristatellus wileyae</i>
<u>20.rr El Mono</u>	<i>Mabuya mabouya sloanei</i>
<u>20.ss Las Hermanas</u>	<i>Sphaerodactylus m. macrolepis</i>
<u>20.tt Cayo Luis Peña</u>	<i>Alsophis portoricensis nicholsi</i>
Mabuya mabouya sloanei Sphaerodactylus m. macrolepis	<u>20.ab Capella Island</u> (.093km <sup>2</sup> ;37m)
<u>20.uu Cayo Pelaita</u>	<u>20.ac Carval Rock</u> (.065km <sup>2</sup> ;20m)
<u>20.vv Cayo Pirata</u>	<u>20.ad Cas Cay</u> (.071km <sup>2</sup> ;30m)
<u>20.ww Cayo Verde</u>	<i>Ameiva exsul exsul</i> <i>Anolis cristatellus wileyae</i> <i>Sphaerodactylus m. macrolepis</i>
U.S. VIRGIN ISLANDS (xx to ce) excluding St. Croix	<u>20.ae Cockroach Island</u> (.077km <sup>2</sup> ;46m)
<u>20.xx St. Thomas</u> (76.6km <sup>2</sup> ;470m)	<i>Anolis cristatellus wileyae</i> <i>Sphaerodactylus m. macrolepis</i> <i>Alsophis portoricensis richardi</i>
Bufo marinus Eleutherodactylus antillensis Eleutherodactylus cochranae Eleutherodactylus coqui Eleutherodactylus latus Leptodactylus albilibris Osteopilus septentrionalis* Geochelone carbonaria Ameiva exsul exsul Anolis cristatellus wileyae Anolis pulchellus Anolis stratulus Hemidactylus mabouia Iguana iguana Mabuya mabouya sloanei Sphaerodactylus m. macrolepis Amphisbaena fenestrata Alsophis portoricensis richardi Arrhyton exiguum exiguum Epicrates monensis granti Typhlops richardi	<u>20.af Congo Cay</u> (.103km <sup>2</sup> ;52m)
	<i>Anolis cristatellus wileyae</i> <i>Anolis stratulus</i> <i>Sphaerodactylus m. macrolepis</i>
	<u>20.ag Cricket Rock</u> (.010km <sup>2</sup> ;14m)
	<u>20.ah Dog Island</u> (.040km <sup>2</sup> ; m)
	<i>Ameiva exsul exsul</i> <i>Anolis cristatellus wileyae</i> <i>Sphaerodactylus m. macrolepis*</i> <i>Alsophis portoricensis richardi</i>
	<u>20.ai Dutch Cap Cay</u> (.129km <sup>2</sup> ;84m)
	<i>Ameiva exsul exsul</i> <i>Anolis cristatellus wileyae</i>

\*personal observation by WPM

20.aj Fish Cay (.012km<sup>2</sup>; m)  
*Anolis cristatellus wileyae\*\**  
*Hemidactylus mabouia\*\**

20.ak Flat Cays (.013km<sup>2</sup>;10m)

20.al French Cap Cay (.081km<sup>2</sup>;55m)

20.am Grass Cay (.243km<sup>2</sup>;70m)  
*Anolis cristatellus wileyae*

20.an Great St. James (.607km<sup>2</sup>;53m)  
*Ameiva exsul exsul*  
*Anolis cristatellus wileyae*  
*Anolis stratulus*  
*Sphaerodactylus m. macrolepis*  
*Amphisbaena fenestrata*  
*Alsophis portoricensis richardi*

20.ao Green Cay (.029km<sup>2</sup>; m)

20.ap Hans Lollik (1.275km<sup>2</sup>;216m)  
*Anolis cristatellus wileyae*  
*Sphaerodactylus m. macrolepis*  
*Alsophis portoricensis richardi*

20.aq Hassel Island (.607km<sup>2</sup>;81m)  
*Eleutherodactylus cochranae*  
*Ameiva exsul exsul*  
*Anolis cristatellus wileyae*  
*Hemidactylus mabouia*  
*Iguana iguana*  
*Arrhyton exiguum exiguum*

20.ar Inner Brass (.546km<sup>2</sup>;78m)  
*Ameiva exsul exsul*  
*Anolis cristatellus wileyae*

20.as Kalkun Cay (.014km<sup>2</sup>; m)

20.au Little Hans Lollik (.445km<sup>2</sup>;66m)

20.av Little St. James (.294km<sup>2</sup>;43m)  
*Ameiva exsul exsul*  
*Anolis cristatellus wileyae*  
*Anolis pulchellus*  
*Anolis stratulus*

*Hemidactylus mabouia*  
*Alsophis portoricensis richardi*  
*?Geochelone carbonaria*

20/ay Mingo Cay (196km<sup>2</sup>;56m)

*Ameiva exsul exsul*  
*Anolis cristatellus wileyae*  
*Anolis pulchellus*  
*Anolis stratulus*  
*Sphaerodactylus m. macrolepis*

20.az Outer Brass (.437km<sup>2</sup>;125m)  
*Ameiva exsul exsul*  
*Anolis cristatellus wileyae*

20.ba Patricia Cay (.138km<sup>2</sup>; m)  
*Anolis cristatellus wileyae*  
*Anolis stratulus*  
*Iguana iguana*  
*Sphaerodactylus m. macrolepis*

20.bc Pelican Cay (.018km<sup>2</sup>; m)

20.bd Rotto Cay (.008km<sup>2</sup>; m)  
*Ameiva exsul exsul*  
*Anolis cristatellus wileyae*  
*Sphaerodactylus m. macrolepis*

20.be Rupert Rock (.051km<sup>2</sup>;2m)

20.bf Saba Island (.130km<sup>2</sup>;61m)  
*Ameiva exsul exsul*  
*Anolis cristatellus wileyae*  
*Anolis stratulus*  
*Mabuya mabouya sloanei*  
*Sphaerodactylus m. macrolepis*  
*Alsophis portoricensis richardi*

20.bg Sail Rock ( km<sup>2</sup>;38m)

20.bh Salt Cay (.256km<sup>2</sup>;73m)  
*Ameiva exsul exsul*  
*Anolis cristatellus wileyae*  
*Mabuya mabouya sloanei*

\*\*Philibosian and Yntema, 1977

<u>20.bi Savanna Island</u> (.749km <sup>2</sup> ; 82m)	<u>20.bq Cinnamon Cay</u> (.004km <sup>2</sup> ; m)
Ameiva exsul exsul	Anolis cristatellus wileyae**
Anolis cristatellus wileyae	Sphaerodactylus m. macrolepis**
Anolis stratulus	
Sphaerodactylus m. macrolepis	<u>20.br Cocolobo Cay</u> (.002km <sup>2</sup> ; m)
Alsophis portoricensis richardi	
<u>20.bj Shark Island</u> (.005km <sup>2</sup> ; m)	
Anolis cristatellus wileyae**	Anolis cristatellus wileyae**
<u>20.bk Sula Cay</u> (.077km <sup>2</sup> ; 18m)	Sphaerodactylus m. macrolepis**
<u>20.bl Thatch Cay</u> (.688km <sup>2</sup> ; 146m)	
Eleutherodactylus cochranae**	<u>20.bs Flanagan Island</u> (.105km <sup>2</sup> ; 38m)
Anolis cristatellus wileyae	
<u>20.bm Turtle Dove Cay</u> (.146km <sup>2</sup> ; 15m)	
<u>20.bn Water Island</u> (1.959km <sup>2</sup> ; 89m)	
Geochelone carbonaria	Ameiva exsul exsul
Ameiva exsul exsul	Anolis cristatellus wileyae
Anolis cristatellus wileyae	Anolis stratulus
Anolis pulchellus	
Anolis stratulus	<u>20.bt Henley Cay</u> (.053km <sup>2</sup> ; 21m)
Hemidactylus mabouia*	
Iguana iguana	Anolis cristatellus wileyae**
Mabuya mabouya sloanei	Hemidactylus mabouia**
Sphaerodactylus m. macrolepis	Sphaerodactylus m. macrolepis**
Alsophis portoricensis richardi	
<u>20.bo West Cay</u> (.170km <sup>2</sup> ; 37m)	<u>20.bu Perkins Cay</u> (.091km <sup>2</sup> ; m)
<u>20.bp St. John</u> (51.8km <sup>2</sup> ; 387m)	<u>20.bv Leduck Island</u> (.073km <sup>2</sup> ; 26m)
Eleutherodactylus antillensis	Ameiva exsul exsul
Eleutherodactylus cochranae	Anolis cristatellus wileyae
Eleutherodactylus latus	Anolis stratulus
?Eleutherodactylus schwartzi	
Leptodactylus albilabris	<u>20.bw Ramgoat Cay</u> (.005km <sup>2</sup> ; m)
Geochelone carbonaria	
Ameiva exsul exsul	Anolis cristatellus wileyae
Anolis cristatellus wileyae	
Anolis pulchellus	<u>20.bx Rata Cay</u> (.001km <sup>2</sup> ; m)
Anolis stratulus	
Hemidactylus mabouia	Anolis cristatellus wileyae
Iguana iguana	
Mabuya mabouya sloanei	<u>20(by Steven Cay</u> (.024km <sup>2</sup> ; 8m)
Sphaerodactylus m. macrolepis	
Amphisbaena fenestrata	Anolis cristatellus wileyae
Arrhyton exiguum exiguum	Anolis stratulus**
Typhlops richardi	Sphaerodactylus m. macrolepis**
	<u>20.bz Trunk Cay</u> (.004km <sup>2</sup> ; m)
	Anolis stratulus wileyae***
	Anolis stratulus

\*personal observation by WPM

\*\*Philibosian and Yntema, 1977

\*\*\*Philibosian and Yntema, 1976

20.ca Watermelon Cay (.004km<sup>2</sup>; m)

Anolis cristatellus wileyae  
Sphaerodactylus m. macrolepis

20.cb Whistling cay (.081km<sup>2</sup>; m)

Anolis cristatellus wileyae\*\*  
Anolis stratulus  
Iguana iguana\*\*  
Sphaerodactylus m. macrolepis\*\*

20.cd Congo Rock

Anolis cristatellus wileyae

BRITISH VIRGIN ISLANDS (cf to du)

20.cf Anegada (39km<sup>2</sup>; 9m)

Leptodactylus albilateralis  
Ameiva exsul exsul  
Anolis cristatellus wileyae  
Anolis pulchellus  
Anolis stratulus  
Cyclura pinguis  
Hemidactylus mabouia\*\*  
Mabuya mabouya sloanei  
Sphaerodactylus m. macrolepis  
Alsophis portoricensis anegadensis

20.cg Beef Island (3.81km<sup>2</sup>; 200m)

Ameiva exsul exsul  
Anolis cristatellus wileyae  
Anolis pulchellus  
Sphaerodactylus m. macrolepis  
Typhlops richardi richardi

20.ch Belamy Cay (.081km<sup>2</sup>; m)

20.ci Buck Island (.162km<sup>2</sup>; 52m)

Sphaerodactylus m. macrolepis

20.cj Cockroach Rock (.024km<sup>2</sup>; m)

20.ck Cooper Island (1.38km<sup>2</sup>; 161m)

Anolis cristatellus wileyae  
Ameiva exsul exsul

20.cl Dead Chest (.170km<sup>2</sup>; 61m)

Ameiva exsul exsul  
Anolis cristatellus wileyae

20.cm Diamond Cay (.041km<sup>2</sup>; m)

20.cn Eustatia Island (.081km<sup>2</sup>)

20.co Fallen Jerusalem (.21km<sup>2</sup>; 42m)

Anolis cristatellus wileyae  
Anolis stratulus  
Mabuya mabouya sloanei\*\*  
Sphaerodactylus m. macrolepis\*\*

20.cp Frenchman Cay (.55km<sup>2</sup>; 133m)

20cq George Dog (.409km<sup>2</sup>; 76m)

20.cr Ginger Island (1.09km<sup>2</sup>; 152m)

Ameiva exsul exsul\*\*  
Anolis cristatellus wileyae\*\*  
Anolis stratulus\*\*  
Mabuya mabouya sloanei\*\*  
Sphaerodactylus m. macrolepis\*\*

20.cs Great Camanoe Island (.336km<sup>2</sup>; 173m)

Ameiva exsul exsul  
Anolis cristatellus wileyae  
Anolis pulchellus  
Anolis stratulus  
Mabuya mabouya sloanei  
Sphaerodactylus m. macrolepis  
Amphisbaena fenestrata

20.ct Great Dog (.409km<sup>2</sup>; 82m)

20.cu Great Thatch Island (1.21km<sup>2</sup>; 186m)

Anolis cristatellus wileyae\*\*  
Anolis stratulus  
Sphaerodactylus m. macrolepis\*\*

20.cv Tobago Island (.959km<sup>2</sup>; 163m)

20.cw Green Cay (.061km<sup>2</sup>; 33m)

*Anolis cristatellus wileyae\*\**  
*Sphaerodactylus m. macrolepis\*\**

20(cx Guano Island (3.03km<sup>2</sup>; 245m)

*Ameiva exsul exsul*  
*Anolis cristatellus wileyae*  
*Anolis pulchellus*  
*Anolis stratulus*  
*Iguana iguana*  
*Sphaerodactylus m. macrolepis*  
*Alsophis portoricensis anegadae*  
*?Epicrates monensis granti*

20.cy Jost Van Dyke (8.43km<sup>2</sup>; 324m)

*Leptodactylus albilibris*  
*Anolis cristatellus wileyae*  
*Anolis pulchellus*  
*Anolis stratulus*  
*Mabuya mabouya sloanei*  
*Sphaerodactylus m. macrolepis*  
*Amphisbaena fenestrata\*\**

20.cz Little Camanoe (.178km<sup>2</sup>; m)

*Ameiva exsul exsul*

20.da Little Jost Van Dyke (.069km<sup>2</sup>; 111m)20.db Little Thatch (.227km<sup>2</sup>; m)20.dc Little Tobago (.271km<sup>2</sup>; 85m)20.de Marina Cay (.024km<sup>2</sup>; m)

*Ameiva exsul exsul*

20.df Mosquito Island (.502km<sup>2</sup>; 88m)

*Ameiva exsul exsul*  
*Anolis cristatellus wileyae*  
*Anolis stratulus*  
*Sphaerodactylus m. macrolepis*  
*Alsophis portoricensis anegadae*

20.dg Necker Island (.275km<sup>2</sup>; 32m)

*Ameiva exsul exsul*  
*Anolis cristatellus wileyae*  
*Sphaerodactylus m. macrolepis*  
*Alsophis portoricensis anegadae*

20.dh Norman Island (.251km<sup>2</sup>; 133m)

*Ameiva exsul exsul\*\**  
*Anolis cristatellus wileyae\*\**  
*Anolis pulchellus\*\**  
*Anolis stratulus\*\**  
*Mabuya mabouya sloanei\*\**  
*Sphaerodactylus m. macrolepis\*\**

20.di Peter Island (.439km<sup>2</sup>; 164m)

*Geochelone carbonaria*  
*Ameiva exsul exsul*  
*Anolis cristatellus wileyae*  
*Anolis pulchellus*  
*Anolis stratulus*  
*Hemidactylus mabouia*  
*Iguana iguana*  
*Mabuya mabouya sloanei*  
*Sphaerodactylus m. macrolepis*  
*Alsophis portoricensis richardi*  
*Arrhyton exiguum exiguum*

20.dj Felican Island (.049km<sup>2</sup>; 55m)20.dk Prickly Pear Island (.858km<sup>2</sup>; 61m)

*Ameiva exsul exsul*  
*Anolis cristatellus wileyae*  
*Anolis stratulus*  
*Sphaerodactylus m. macrolepis*  
*Typhlops richardi naugus*

20.dl Round Rock (.069km<sup>2</sup>; 67m)

*Ameiva exsul exsul\*\**  
*Anolis cristatellus wileyae\*\**  
*Mabuya mabouya sloanei\*\**  
*Sphaerodactylus m. macrolepis\*\**

20.dm Saba Rock (.004km<sup>2</sup>; m)

*Anolis cristatellus wileyae*

20.dn Salt Island (.813km<sup>2</sup>; 115m)

*Ameiva exsul exsul*  
*Anolis cristatellus wileyae*  
*Hemidactylus mabouia*  
*Mabuya mabouya sloanei*  
*Alsophis portoricensis richardi*

\*\*Philibosian and Yntema, 1977

20.do Sandy Cay (.053km<sup>2</sup>;20m)

Ameiva exsul exsul  
 Anolis cristatellus wileyae\*\*  
 Hemidactylus mabouia  
 Sphaerodactylus m. macrolepis

20.dp Scrub Island (.975km<sup>2</sup>;136m)

Ameiva exsul exsul

20.dq Seal Dog (.049km<sup>2</sup>;30m)20.dr Tortola (54km<sup>2</sup>;527m)

Eleutherodactylus antillensis  
 Eleutherodactylus cochranae  
 Eleutherodactylus schwartzii  
 Leptodactylus albilabris  
 Geochelone carbonaria  
 Ameiva exsul exsul  
 Anolis cristatellus wileyae  
 ?Anolis cuvieri  
 Anolis pulchellus  
 Anolis stratulus  
 Hemidactylus mabouia  
 Iguana iguana  
 Mabuya mabouya sloanei  
 Sphaerodactylus m. macrolepis  
 Amphisbaena fenestrata  
 Alsophis portoricensis anegadae  
 Arrhyton exiguum exiguum  
 Epicrates monensis granti  
 Typhlops richardi richardi

20.ds Virgin Gorda (21km<sup>2</sup>;418m)

Bufo lemur  
 Eleutherodactylus antillensis  
 Eleutherodactylus schwartzii  
 Ameiva exsul exsul  
 Anolis cristatellus wileyae  
 Anolis pulchellus  
 Anolis stratulus  
 Hemidactylus mabouia  
 Mabuya mabouya sloanei  
 Sphaerodactylus m. macrolepis  
 Sphaerodactylus parthenopion  
 Amphisbaena fenestrata  
 Alsophis portoricensis anegadae  
 Arrhyton exiguum exiguum  
 Typhlops richardi naugus

20.dt West Dog Island (.126km<sup>2</sup>;45m)

\*\*Philibosian and Yntema, 1977

21.a St. Croix (230km<sup>2</sup>;353m)

Bufo marinus  
 Eleutherodactylus coqui  
 Eleutherodactylus latus  
 Leptodactylus albilabris  
 Osteopilus septentrionalis  
 Ameiva polops  
 Anolis acutus  
 Hemidactylus mabouia  
 Iguana iguana  
 Mabuya mabouya sloanei  
 Sphaerodactylus beattyi beattyi  
 Sphaerodactylus beattyi seamani  
 Sphaerodactylus m. macrolepis  
 Thecadactylus rapicauda  
 Alsophis sancticrucis  
 Geochelone carbonaria\*\*

21.b Buck Island (.73km<sup>2</sup>;109m)

Ameiva polops  
 Anolis acutus  
 Sphaerodactylus beattyi beattyi

21.c Green Cay (.057km<sup>2</sup>; m)

Ameiva polops  
 Anolis acutus  
 Mabuya mabouya sloanei  
 Sphaerodactylus beattyi beattyi  
 Alsophis sancticrucis\*

21.d Protestant Cay (.024km<sup>2</sup>; m)

Ameiva polops  
 Anolis acutus  
 Sphaerodactylus m. macrolepis

\*Richard Bond, personal communication

22. Sombrero Island (5.18km<sup>2</sup>;12m)

Ameiva corvina  
 Anolis gingivinus  
 Sphaerodactylus sputator

23.a Anguilla (91km<sup>2</sup>;65m)

Ameiva pleei  
 Anolis gingivinus  
 Anolis wattsi pogus  
 Hemidactylus mabouia  
 Iguana delicatissima  
 Mabuya mabouya mabouya  
 Sphaerodactylus macrolepis parvus  
 Sphaerodactylus sputator  
 Alsophis rijersmai

23.b Scrub Island

Ameiva pleei  
 Anolis gingivinus

23.c Little Scrub

Ameiva pleei

23.d Dog Island

Ameiva pleei  
 Anolis gingivinus  
 Sphaerodactylus macrolepis parvus  
 Sphaerodactylus sputator

23.e Anguillita

Anolis gingivinus

23.f W. Prickly Pear Cay

Anolis gingivinus

23.g St. Martin

Eleutherodactylus johnstonei  
 Ameiva pleei  
 Anolis gingivinus  
 Anolis wattsi pogus  
 Hemidactylus mabouia  
 Iguana delicatissima  
 Mabuya mabouya mabouya  
 Sphaerodactylus macrolepis parvus  
 Sphaerodactylus sputator  
 Alsophis rijersmai

23.h Tintamarre

Ameiva pleei

Anolis gingivinus  
 Sphaerodactylus macrolepis parvus

23.i Guana Cay of Pelikan

Anolis gingivinus

23.j St. Barthelemy

Geochelone carbonaria  
 Ameiva pleei  
 Anolis gingivinus  
 Iguana delicatissima  
 Mabuya mabouya mabouya  
 Sphaerodactylus macrolepis parvus  
 Sphaerodactylus sputator  
 Alsophis rijersmai

23.k Ile Fourchue

Ameiva pleei  
 Anolis gingivinus  
 Iguana delicatissima  
 Sphaerodactylus sputator

23.l Ile Chevreau

Ameiva pleei  
 Anolis gingivinus  
 Iguana delicatissima

23.m Ile Toc Vers

Ameiva pleei  
 Anolis gingivinus

23.n Ile Fregate

Ameiva pleei  
 Anolis gingivinus  
 Iguana delicatissima

23.o Ile Coco

Anolis gingivinus

24. Saba (13km<sup>2</sup>;864m)

Eleutherodactylus johnstonei  
 Anolis sabanus  
 Hemidactylus mabouia

Saba, continued

*Iguana iguana*  
*Sphaerodactylus sabanus*  
*Thecadactylus rapicauda*  
*Alsophis rufiventer*

25.a Nevis (93km<sup>2</sup>; 979m)

*Bufo marinus*  
*Eleutherodactylus johnstonei*  
*Ameiva erythrocephala*  
*Anolis b. bimaculatus*  
*Anolis wattsi schwartzi*  
*Iguana delicatissima*  
*Sphaerodactylus sabanus*  
*Sphaerodactylus sputator*  
*Thecadactylus rapicauda*  
*Alsophis rufiventris*  
*Typhlops monastus geotomus*

25.b St. Kitts (166km<sup>2</sup>; 1307m)

*Bufo marinus*  
*Eleutherodactylus johnstonei*  
*Leptodactylus fallax*  
*Ameiva erythrocephala*  
*Anolis b. bimaculatus*  
*Anolis wattsi schwartzi*  
*Hemidactylus mabouia*  
*Sphaerodactylus sabanus*  
*Sphaerodactylus sputator*  
*Thecadactylus rapicauda*  
*Alsophis rufiventris*  
*Typhlops monastus geotomus*

25.c St. Eustatius (21km<sup>2</sup>; 599m)

*Eleutherodactylus johnstonei*  
*Ameiva erythrocephala*  
*Anolis b. bimaculatus*  
*Anolis wattsi schwartzi*  
*Hemidactylus mabouia*  
*Iguana delicatissima*  
*Sphaerodactylus sabanus*  
*Sphaerodactylus sputator*  
*Thecadactylus rapicauda*  
*Alsophis rufiventris*

26.a Barbuda (161km<sup>2</sup>; 62m)

*Eleutherodactylus johnstonei*  
*Geochelone carbonaria*

*Ameiva griswoldi*  
*Anolis bimaculatus leachi*  
*Anolis wattsi forresti*  
*Sphaerodactylus elegantulus*  
*Thecadactylus rapicauda*  
*Typhlops monastus geotomus*

26.b Antigua (280km<sup>2</sup>; 403m)

*Bufo marinus*  
*Eleutherodactylus johnstonei*  
*Eleutherodactylus martinicensis*  
*Geochelone carbonaria*  
*Ameiva griswoldi*  
*Anolis bimaculatus leachi*  
*Anolis wattsi wattsi*  
*Hemidactylus mabouia*  
*Iguana delicatissima*  
*Sphaerodactylus elegantulus*  
*Thecadactylus rapicauda*  
*Alsophis antillensis antiguae*  
*?Leptotyphlops tenella*  
*Typhlops monastus geotomus*

26.c Long Island

*Ameiva griswoldi*  
*Anolis bimaculatus leachi*  
*Anolis wattsi wattsi*

26.d Great Bird Island

*Ameiva griswoldi*  
*Anolis bimaculatus leachi*  
*Anolis wattsi wattsi*  
*Alsophis antillensis antiguae*  
*Typhlops monastus geotomus*

26.e Green Island

*Ameiva griswoldi*  
*Anolis bimaculatus leachi*  
*Anolis wattsi wattsi*

26.f Guana Island

*Anolis wattsi wattsi*

26.g York

*Anolis bimaculatus leachi*  
*Anolis wattsi wattsi*

27.a Montserrat (101km<sup>2</sup>; 909m)

Bufo marinus  
 Eleutherodactylus johnstonei  
 Leptodactylus fallax  
 Geochelone carbonaria  
 Ameiva p. pluvianotata  
 Anolis lividus  
 Diploglossus montiserrati  
 Hemidactylus mabouia  
 Iguana iguana  
 Mabuya mabouya mabouya  
 Sphaerodactylus fantasticus ligniservulus

Thecadactylus rapicauda  
 Alsophis antillensis manselli

27.b Redonda

Ameiva pluvianotata atrata  
 Anolis nubilus  
 Mabuya mabouya mabouya

28.a La Guadeloupe (Basse-Terre)  
(1458m)

Bufo marinus  
 Eleutherodactylus barlagnei  
 Eleutherodactylus martinicensis  
 Eleutherodactylus pinchoni  
 Leptodactylus fallax  
 Chrysemys scripta elegans  
 Pelusios subniger  
 Anolis marmoratus marmoratus  
 Anolis marmoratus alliaceus  
 Anolis marmoratus girafus  
 Anolis marmoratus setosus  
 Anolis marmoratus speciosus  
 Hemidactylus mabouia  
 Iguana iguana  
 Mabuya mabouya mabouya  
 Sphaerodactylus f. fantasticus  
 Sphaerodactylus fantasticus orescius  
 Thecadactylus rapicauda  
 Alsophis antillensis antillensis  
 Dromicus juliae copeae  
 ?Leptotyphlops bilineata  
 ?Typhlops guadeloupeensis

28.b Grande Terre

Bufo marinus  
 Eleutherodactylus martinicensis  
 ?Leptodactylus fallax  
 Chrysemys scripta elegans  
 Pelusios subniger

Anolis marmoratus incornatus  
 Anolis marmoratus speciosus  
 Gymnophthalmus underwoodi  
 Iguana delicatissima  
 Mabuya mabouya mabouya  
 Sphaerodactylus fantasticus tartaropylorus  
 Thecadactylus rapicauda  
 Alsophis antillensis antillensis  
 Dromicus juliae copeae  
 ?Leptotyphlops bilineata  
 Typhlops guadeloupeensis

28.c Ilet-a-Cochons

Eleutherodactylus martinicensis  
 Anolis marmoratus speciosus  
 Mabuya mabouya mabouya

28.d Fajou

Anolis marmoratus speciosus/setosus inter.\*

28.e Kahouanne

Eleutherodactylus martinicensis  
 Anolis marmoratus kahouannensis  
 Sphaerodactylus fantasticus

ILES DES SAINTES (f through j)28.f Terre de Bas

Eleutherodactylus martinicensis  
 Anolis marmoratus caryae  
 Hemidactylus mabouia  
 Iguana delicatissima  
 Sphaerodactylus fantasticus phyzacinus  
 Thecadactylus rapicauda

28.g Terre de Haut

Eleutherodactylus martinicensis  
 Anolis marmoratus terraaltae  
 Hemidactylus mabouia  
 Iguana delicatissima  
 Iguana iguana  
 Sphaerodactylus fantasticus phyzacinus  
 Alsophis antillensis sanctorum

28.h Grande Ilet (=Mare Basse?)

Eleutherodactylus martinicensis  
 Anolis marmoratus terraaltae  
 Iguana iguana

28.i Ilet-a-Cabrit

*Anolis marmoratus terraaltae*  
*Hemidactylus mabouia*  
*Iguana iguana*  
*Sphaerodactylus fantasticus phyzacinus*

28.j La Coche

*Iguana iguana*

28.k Marie Galante (203m)

*Chrysemys decussata stejnegeri*  
*Chrysemys decussata vicina*  
*Mabuya mabouya mabouya*  
*Sphaerodactylus fantasticus anidrotus*  
*Alsophis antillensis antillensis*  
*Dromicus juliae mariae*

ILES DE LA PETITE TERRE (l and m)28.l Terre de Haut

*Anolis marmoratus chrysops*

28.m Terre de Eas

*Anolis marmoratus chrysops*  
*Heidactylus mabouia*  
*Sphaerodactylus fantasticus karukera*  
*Alsophis antillensis danforthi*

28.n La Desirade (272m)

*Eleutherodactylus martinicensis*  
*Sphaerodactylus fantasticus hippomanes*  
*Anolis marmoratus desiradei*  
*Iguana delicatissima*

28.o Ilets de Pigeon: Nord

*Anolis marmoratus girafus*  
*Henidactylus mabouia*  
*Iguana iguana*

28.p Ilets de Pigeon: Sud

*Anolis marmoratus girafus*  
*Iguana iguana*

28.q Grand Ilet (off Petit-Bourg)

*Ameiva cineracea*

28.r Ilet Macon

*Anolis marmoratus inornatus*

28.s Tete-a-Anglais

*Anolis marmoratus kahouannensis*  
*Hemidactylus mabouia*

28.t Ilet du Gosier

*Anolis marmoratus speciosus*  
*Sphaerodactylus fantasticus karukera*

28.u Ilet Christophe

*Anolis marmoratus speciosus*

28.v Ilet Fortune

*Sphaerodactylus fantasticus orescens*

29. Dominica (790km<sup>2</sup>;1438m)

*Eleutherodactylus martinicensis*  
*Leptodactylus fallax*  
*Ameiva fuscata*  
*Anolis oculatus oculatus*  
*Anolis oculatus cabritensis*  
*Anolis oculatus montanus*  
*Anolis oculatus winstoni*  
*Hemidactylus mabouia*  
*Sphaerodactylus fantasticus fuga*  
*Sphaerodactylus vincenti monilifer*  
*Thecadactylus rapicauda*  
*Alsophis antillensis sibonius*  
*boa constrictor nebulosa*  
*Clelia clelia clelia*  
*Dromicus juliae juliae*  
*Typhlops dominicana*  
*Geochelone carbonaria*

30.a Martinique (1101km<sup>2</sup>;1454m)

*Euproctis marinus*  
*Eleutherodactylus johnstonei*  
*Eleutherodactylus martinicensis*  
*Ameiva major*  
*Anolis roquet roquet*  
*Anolis roquet caracoli*  
*Anolis roquet majolgris*  
*Anolis roquet salinei*

Martinique continued

Anolis roquet summus  
 Anolis roquet zebrilus  
 Gymnophthalmus pleei pleei  
 Hemidactylus mabouia  
 Iguana delicatissima  
 Leiocephalus herminieri  
 Sphaerodactylus vincenti festus  
 Sphaerodactylus vincenti josephinae  
 Sphaerodactylus vincenti pheristus  
 Sphaerodactylus vincentipsammius  
 Sphaerodactylus vincenti ronaldi  
 Bothrops lanceolata  
 Dromicus cursor  
 Leptotyphlops bilineata

30.b Ilet St. Aubin

Anolis roquet majolgris/roquet inter.

30.c Ilet Oscar

Anolis roquet salinei/roquet inter.

30.d Ilet Chancel

Anolis roquet roquet

30.e Ilet Cabrits

Anolis roquet salinei

30.f Ilet Chevalier

Anolis roquet salinei

30.g Rocher du Diamant

Sphaerodactylus vincenti adamas  
 Dromicus cursor

31.a St. Lucia (603km<sup>2</sup>;953m)

Bufo marinus  
 Eleutherodactylus johnstonei  
 Hyla rubra  
 Leptodactylus fallax  
 Anolis extremus  
 Anolis luciae  
 Gymnophthalmus pleei luetkeni  
 Hemidactylus mabouia  
 Iguana iguana  
 Mabuya mabouya mabouya

Sphaerodactylus m. microlepis  
 Sphaerodactylus vincenti diamesus  
 Thecadactylus rapicauda  
 Boa constrictor orophias  
 Bothrops caribbaea  
 Clelia clelia clelia  
 Dromicus ornatus  
 Leptotyphlops bilineata

31.b Pigeon Island

Anolis luciae

31.c southernmost of the Maria Is. (91m)

Anolis luciae  
 Cnemidophorus vanzoi  
 Gymnophthalmus pleei nesydriion  
 Hemidactylus palaichthys  
 Iguana iguana  
 Sphaerodactylus microlepis thomasi  
 Dromicus ornatus

32. St. Vincent (344km<sup>2</sup>;1227m)

Bufo marinus  
 Eleutherodactylus johnstonei  
 Eleutherodactylus urichi shrevei  
 Leptodactylus wagneri  
 Ameiva ameiva tobagana  
 Anolis griseus  
 Anolis trinitatis  
 Gymnophthalmus underwoodi  
 Hemidactylus mabouia  
 Iguana iguana  
 Mabuya mabouya mabouya  
 Sphaerodactylus vincenti vincenti  
 Thecadactylus rapicauda  
 Chironius vincenti  
 Corallus enydris cooki  
 Mastigodryas bruesi

33. Barbados (430km<sup>2</sup>;333m)

Bufo marinus  
 Eleutherodactylus johnstonei  
 Anolis extremus  
 Gymnophthalmus underwoodi  
 Hemidactylus mabouia  
 Kentropyx copei  
 Mabuya mabouya mabouya  
 Phyllodactylus pulcher  
 Dromicus perfuscus  
 Leptotyphlops bilineata

34.a Grenada (311km<sup>2</sup>; 833m)

*Bufo marinus*  
*Eleutherodactylus johnstonei*  
*Eleutherodactylus urichi*  
*Leptodactylus wagneri*  
*Geochelone carbonaria*  
*Ameiva ameiva tobagana*  
*Anolis aeneus*  
*Anolis richardi*  
*Echis heteropus allenii*  
*Hemidactylus mabouia*  
*Iguana iguana*  
*Mabuya m. mabouya*  
*Thecadactylus rapicauda*  
*Clelia clelia groomei*  
*Corallus enydris cooki*  
*Dromicus melanotus*  
*Mastigodryas bruesi*  
*Pseudoboa neuwiedi*  
*Typhlops tasymicris*  
*Crocodylus intermedius*

34.b Bird Island34.c Sandy Island

*Anolis aeneus*  
*Ameiva ameiva tobagana*

34.d Green Island

*Anolis aeneus*  
*Ameiva ameiva tobagana*  
*Thecadactylus rapicauda*

34.e Levera Island (=Sugarloaf)

*Anolis aeneus*  
*Anolis richardi*

34.f London Bridge34.g Isle Ronde

*Anolis aeneus*  
*Ameiva ameiva tobagana*

34.h Diamond Island34.i Les Tantes

*Anolis aeneus*

34.j Lange Island34.k Frigate Island

*Ameiva ameiva tobagana*  
*Iguana iguana*

34.l White Island34.m Saline Island34.n Carriacou

*Anolis richardi*  
*Hemidactylus mabouia*  
*Iguana iguana*  
*Mabuya m. mabouya*  
*Corallus enydris cooki\**  
*Mastigodryas bruesi*

34.o Mabuya Island

*Anolis richardi*  
*Iguana iguana*

34.p Petit Tobago

*Anolis aeneus\*\**

34.q Petit Martinique

*Anolis aeneus*  
*Hemidactylus mabouia*

34.r Petit St. Vincent

*Iguana iguana*

34.s Prune Island

*Anolis aeneus*

34.t Union Island

*Anolis aeneus*  
*Ameiva ameiva tobagana*

\*Pendlebury, 1974

\*\*Lazell, 1972 (Anolis aeneus throughout Grenadines "wherever more than herb-stage vegetation occurs")

Union Island cont.

*Iguana iguana*  
*Corallus enydris cooki*  
*Mastigodryas bruesi*

34.u Tobago Cays

*Anolis aeneus*  
*Iguana iguana*

34.v Mayero (=Mayreau, Mayeau)

*Ameiva ameiva tobagana*  
*Anolis aeneus*  
*Hemidactylus mabouia*  
*Mabuya mabouya mabouya*

34.w Catholic Island

*Anolis aeneus*

34.x Cannouan

*Geochelone carbonaria*  
*Ameiva ameiva tobagana*  
*Iguana iguana*  
*Bachia heteropus alleni*

34.y Petit Cannouan

*Anolis aeneus*

34.z Savan Island

*Anolis aeneus*  
*Iguana iguana*

34.aa Petit Mustique

*Anolis aeneus*  
*Iguana iguana*

34.bb Mustique

*Ameiva ameiva tobagana*  
*Anolis aeneus*  
*Iguana iguana*  
*Mabuya mabouya mabouya*  
*Mastigodryas bruesi*

34.cc Pillories34.dd Baliceaux

*Anolis aeneus*

34.ee Eattowia

*Anolis aeneus*  
*Iguana iguana*

34.ff Pigeon Island34.gg Quatre Island

*Anolis aeneus*  
*Iguana iguana*  
*Corallus enydris cooki*  
*Mastigodryas bruesi*

34.hh Petit Nevis34.ii Bequia

*Leptodactylus wagneri*  
*Ameiva ameiva tobagana*  
*Anolis aeneus*  
*Anolis richardi*  
*Bachia heteropus alleni*  
*Hemidactylus mabouia*  
*Iguana iguana*  
*Mabuya mabouya mabouya*  
*Thecadactylus rapicauda*  
*Corallus enydris cooki*  
*Mastigodryas bruesi*

34.jj Ile a Caille

*Ameiva ameiva tobagana*  
*Anolis aeneus*  
*Iguana iguana*  
*Mastigodryas bruesi*

34.kk Petit Bateau

*Ameiva ameiva tobagana*  
*Mabuya mabouya mabouya*

34.ll Kick'em Jenney

*Anolis aeneus*  
*Iguana iguana*

34.mm Cabret

*Anolis aeneus*

34. nn Glover Island

*Anolis aeneus*  
*Mabuya mabouya mabouya*

## LOS TESTIGOS

35.a Morro de la Iguana (0.66km<sup>2</sup>;100m)

*Ameiva bifrontata bifrontata\**  
*Cnemidophorus l. lemniscatus\**  
*Gonatodes vittatus vittatus\*\**  
*Iguana iguana\**  
*Crotalus terrificus\**

35.b Chiwo (0.02km<sup>2</sup>;20m)

*Gonatodes vittatus\**

35.c Angoletta (0.001km<sup>2</sup>;10m)

*Cnemidophorus l. lemniscatus\**  
*Gonatodes vittatus vittatus\*\**

35.d Tamarindo (2.5km<sup>2</sup>;200m)

*Ameiva bifrontata bifrontata\**  
*Cnemidophorus l. lemniscatus\**  
*Iguana iguana\**  
*Tropidurus torquatus hispidus\**  
*Crotalus terrificus\**

35.e Isla de Conejo (0.5km<sup>2</sup>;80m)

*Ameiva bifrontata bifrontata\**  
*Gonatodes vittatus vittatus\*\**  
*Iguana iguana\**  
*Thecadactylus rapicaudus\**  
*Tropidurus torquatus hispidus\**

## LOS FRAILES

36.a Puerto Real (0.75km<sup>2</sup>;100m)

*Ameiva bifrontata bifrontata\**  
*Cnemidophorus l. lemniscatus\**  
*Gonatodes vittatus vittatus\*\**  
*Iguana iguana\**  
*Tropidurus torquatus hispidus\**

36.b La Pechá (0.25km<sup>2</sup>;60m)

*Ameiva bifrontata bifrontata\**  
*Cnemidophorus l. lemniscatus\**  
*Gonatodes vittatus vittatus\*\**  
*Iguana iguana\**  
*Tropidurus torquatus hispidus\**

37. Coche (50km<sup>2</sup>;60m)

1 Amphibian\*  
3 Lizards\*  
*Cnemidophorus l. lemniscatus\*\**  
*Gonatodes vittatus vittatus\*\**

38. Cubagua (26.5km<sup>2</sup>;60m)

3 Lizards\*  
*Cnemidophorus l. lemniscatus\*\**  
*Gonatodes vittatus vittatus\*\**

39.a Margarita (850km<sup>2</sup>;990m)

*Pleurodema brachyops\**  
2 other frogs\*  
*Ameiva bifrontata bifrontata\**  
*Cnemidophorus l. lemniscatus\**  
*Gonatodes vittatus vittatus\*\**  
*Gymnophthalmus s. speciosus\*\**  
*Iguana iguana\**  
*Phyllodactylus mulleri\**  
*Tretioscincus bifasciatus kugleri\*\**  
*Tropidodactylus onca\**  
*Tropidurus torquatus hispidus\**  
*Crotalus durissus\*\**  
*Drymarchon corais margaritae\*\**  
*Epicrates cenchria maurus\*\**  
*Leptodeira annulata ashmeadi\**  
*Leptotyphlops goudotii goudotii\*\**  
*Masticophis mentovarius suborbitalis\*\**  
*Mastigodryas amarali\*\**  
*Mastigodryas pleei\*\**  
*Crocodylus intermedius\**

39.b Isla Blanca (0.0025km<sup>2</sup>;30m)

\*Hummelinck, 1940

\*\*Peters and Donoso-Barros, 1970  
Peters and Orejas-Miranda, 1970

## LOS HERMANOS

40.a Morro Fondeadero (0.5km<sup>2</sup>;80m)

*Anolis blanquillanus\**  
*Cnemidophorus lemniscatus nigricolor\**  
*Gonatodes sp.\**  
*Iguana iguana\**

40.b Morro Pando (2km<sup>2</sup>;210m)

*Cnemidophorus lemniscatus nigricolor\**  
*Gonatodes sp.\**  
*Iguana iguana\**  
*Phyllodactylus rutteni\**  
*Tretioscincus bifasciatus\**

41. Blanquilla (45km<sup>2</sup>;60m)

*Anolis blanquillanus\**  
*Cnemidophorus lemniscatus nigricolor\**  
*Iguana iguana\**  
*Phyllodactylus rutteni\**

42. Tortuga (140km<sup>2</sup>;30m)

*Cnemidophorus lemniscatus nigricolor\**  
*Gonatodes sp.\**  
*Iguana iguana\**  
*?Phyllodactylus rutteni\**

43. Centinela (0.003km<sup>2</sup>;20m)

44.a Orchila (32km<sup>2</sup>;120m)

*Cnemidophorus lemniscatus nigricolor\**  
*Gonatodes antillensis\**  
*?Gonatodes sp.\**  
*Iguana iguana\**  
*Phyllodactylus rutteni\*\**

44.b Huespen (25km<sup>2</sup>;120m)

*Cnemidophorus lemniscatus nigricolor\**  
*Gonatodes antillensis\**  
*?Gonatodes sp.*  
*Iguana iguana\**

\*Hummelinck, 1940

\*\*Peters and Donoso-Barros, 1970  
 Peters and Orejas-Miranda, 1970

## LOS ROQUES

45.a El Gran Roque (1.33km<sup>2</sup>;123m)

*Cnemidophorus lemniscatus nigricolor\**  
*Gonatodes vittatus roquensis\*\**  
*Iguana iguana\**  
*Phyllodactylus rutteni\**

45.b Isla Larga (0.2km<sup>2</sup>;5m)

*Cnemidophorus lemniscatus nigricolor\**

45.c Cayo de Agua (0.33km<sup>2</sup>;10m)

*Cnemidophorus lemniscatus nigricolor\**

## LAS AVES

46.a Ave de Earlovento (0.1km<sup>2</sup>;4m)

*Cnemidophorus lemniscatus nigricolor\**  
*Gonatodes antillensis\**  
*Gymnophthalmus laevicaudus\**

46.b Ave de Sotavento

?*Anolis bonairensis\**  
*Cnemidophorus lemniscatus nigricolor\**  
*Iguana iguana\**  
*Tropidurus torquatus hispidus\**  
 one snake\*

47.a Bonaire (265km<sup>2</sup>;243m)

*Pleurodema brachyops\**  
*Anolis bonairensis\**  
*Cnemidophorus murinus ruthveni\**  
*Gonatodes antillensis\**  
*Gymnophthalmus lineatus\**  
*Iguana iguana\**  
*Phyllodactylus martini\**  
*Thecadactylus rapicauda\**  
*Leptotyphlops goudotii goudotii\*\**

47.b Klein Bonaire (7km<sup>2</sup>;6m)

*Pleurodema brachyops\**  
*Anolis bonairensis\**  
*Cnemidophorus murinus ruthveni\**  
*Gonatodes antillensis\**  
*Iguana iguana\**  
*Phyllodactylus martini\**

48.a Curacao (425km<sup>2</sup>; 372m)

Pleurodema brachyops\*  
 Anolis lineatus\*  
 Cnemidophorus murinus murinus\*  
 Gonatodes albogularis\*  
 Gonatodes antillensis\*  
 ?Gonatodes vittatus vittatus\*  
 Gymnophthalmus lineatus\*  
 Iguana iguana\*  
 Phyllodactylus martini\*  
 Thecadactylus rapicaudus\*  
 Dromicus antillensis\*  
 Leimadophis triscalis\*  
 Liopholism albirostris\*\*

48.b Klein Curacao (1.2km<sup>2</sup>; 3m)

Cnemidophorus murinus murinus\*  
 Gonatodes antillensis\*

49. Aruba (425km<sup>2</sup>; 372m)

Pleurodema brachyops\*  
 Ameiva bifrontata bifrontata\*  
 Anolis lineatus\*  
 Cnemidophorus lemniscatus arubensis\*  
 Gonatodes albogularis\*  
 Gonatodes antillensis\*\*  
 Gonatodes vittatus vittatus\*\*  
 Gymnophthalmus laevicaudus\*  
 Iguana iguana\*  
 Phyllodactylus julieni\*  
 Thecadactylus rapicaudus\*  
 Tretioscincus bifasciatus kugleri\*\*  
 Crotalus durissus unicolor\*\*  
 Leptodeira bakeri\*\*

50. Trinidad (4828km<sup>2</sup>; 935m)

Amphodus auratus\*  
 Bufo granulosus beebei\*  
 Bufo marinus\*  
 Elachistocleis ovalis\*  
 Elachistocleis surinamensis\*  
 Eleutherodactylus ulrichi ulrichi\*\*\*  
 Eupemphix pustulosus trinitatus\*  
 Hyla crepitans\*  
 Hyla hyla geographica\*  
 Hyla maxima\*  
 Hyla mnisera\*  
 Hyla minuta\*  
 Hyla orophila\*  
 Hyla punctata\*  
 Hyla rubra\*  
 Leptodactylus p. pentadactylus\*  
 Leptodactylus podicipinus petersi\*  
 Leptodactylus sibilatrix\*  
 Leptodactylus wagneri  
 Nototheca fitzgeraldi\*  
 Phyllobates trinitatus\*  
 Phylomedusa trinitatus\*  
 Phrynohyas zonata\*  
 Pipa pipa\*  
 Pseudis paradoxus caribensis\*  
 Rana palmipes\*  
 Chelys fimbriata#  
 Geomyda punctularia"  
 Mesoclemmys gibba#  
 Ameiva ameiva tobagana\*\*  
 Amphisbaena alba\*\*  
 Amphisbaena fuliginosa fuliginosa\*\*  
 Anolis aeneus\*\*  
 Anolis chrysopalis planiceps\*\*  
 Anolis trinitatus trinitatus\*\*  
 Bachia heteropus trinitatus\*\*  
 Cnemidophorus lemniscatus lemniscatus\*\*  
 Gonatodes humeralis\*\*  
 Gonatodes ocellatus\*\*  
 Gonatodes vittatus vittatus\*\*  
 Gymnophthalmus underwoodi\*\*  
 Hemidactylus brookii haitianus\*\*  
 Hemidactylus mabouia\*\*  
 Hemidactylus palaichthus

"Boos and Quesnel, n.d.

\*Kenny, 1969

\*\*Peters and Donoso-Barros, 1970

Peters and Orejas-Miranda, 1970

\*\*\*Schwartz, 1967

#Underwood, 1964

\*Hummelinck, 1940

\*\*Peters and Donoso-Barros, 1970

Peters and Orejas-Miranda, 1970

Trinidad cont.

*Iguana iguana iguana\*\**  
*Mabuya mabouya mabouya\*\**  
*Polychrus marmoratus"*  
*Froctoporus shreevei\*\**  
*Sphaerodactylus molei\*\**  
*Thecadactylus rapicaudus\*\**  
*Tupinambis nigropunctatus\*\**  
*Eoa constrictor constrictor\*\**  
*Eothrops atrox"*  
*Chironius carinatus\*\**  
*Clelia clelia clelia"*  
*Corallus enydris cooki\*\**  
*Dipsas variegata trinitatis\*\**  
*Dromicus melanotus*  
*Drymarchon corais corais\*\**  
*Epicrates cenchria maurus\*\**  
*Erythrolamprus aesculapii ocellatus\*\**  
*Eunectes murinus gigas\*\**  
*Helicops angulatus\*\**  
*Hydrops triangularis neglectus\*\**  
*Imantodes cenchoa cenchoa\*\**  
*Lachesis muta muta\*\**  
*Leptodeira annulata ashmeadi\*\**  
*Leptophis ahaetulla coeruleodorsus\*\**  
*Leptophis riveti\*\**  
*Leptotyphlops goudotii goudotii\*\**  
*Leptotyphlops tenella\*\**  
*Micrurus lemniscatus diutius\*\**  
*Micrurus psyches circinalis\*\**  
*Ninia atrata\*\**  
*Oxyrhopus petola petola\*\**  
*Pseudoboa neuwiedii\*\**  
*Pseustes poecilonotus polylepis\*\**  
*Pseustes sulphureus sulphureus\*\**  
*Sibon nebulata nebulata\*\**  
*Siphlophis cervinus\*\**  
*Spilotes pullatus pullatus\*\**  
*Tripanurgos compressus\*\**  
*Typhlops squamosus\*\**  
*Typhlops trinitatus\*\**  
*Oxybelis aeneus"*  
*?Mastigodryas boddaerti"*  
*Caiman sclerops"*

51. Tobago (300km<sup>2</sup>; 564m)

*Eleutherodactylus urichi urichi\*\*\**  
*Leptodactylus wagneri*  
*Anolis richardi*  
*Echis heteropus allenii*

*Cnemidophorus lemniscatus lemniscatus*  
*Gonatodes humeralis\*\**  
*Gonatodes ocellatus\*\**  
*Gymnophthalmus underwoodi*  
*Hemidactylus matouia*  
*Hemidactylus palaichthus*  
*Mabuya mabouya matouya*  
*Sphaerodactylus molei\*\**  
*Thecadactylus rapicauda*  
*Eoa constrictor constrictor\*\**  
*Dromicus melanotus*  
*Drymarchon corais corais\*\**  
*Epicrates cenchria maurus\*\**  
*Erythrolamprus aesculapii ocellatus\*\**  
*Leptodeira annulata ashmeadi\*\**  
*Leptophis ahaetulla coeruleodorsus\*\**  
*Mastigodryas amarali\*\**  
*Mastigodryas boddaerti dunni\*\**  
*Pseudoboa neuwiedii\*\**  
*Sibon nebulata nebulata\*\**  
*Spilotes pullatus pullatus\*\**

52. Bermuda

*Bufo marinus\**  
*Eleutherodactylus gossei\**  
*Eleutherodactylus johnstonei\**  
*Anolis grahami grahami\**  
*Anolis leachii\**  
*Anolis roquet\**  
*Eumeces longirostris\**

\*Wingate, 1965

"Boos and Quesnel, n.d.

\*\*Peters and Donoso-Barros, 1970

Peters and Orejas-Miranda, 1970

\*\*\*Schwartz, 1967

Note: Ameiva ameiva tobagona does not occur on Tobago! (Tuck and Hardy, 1973)

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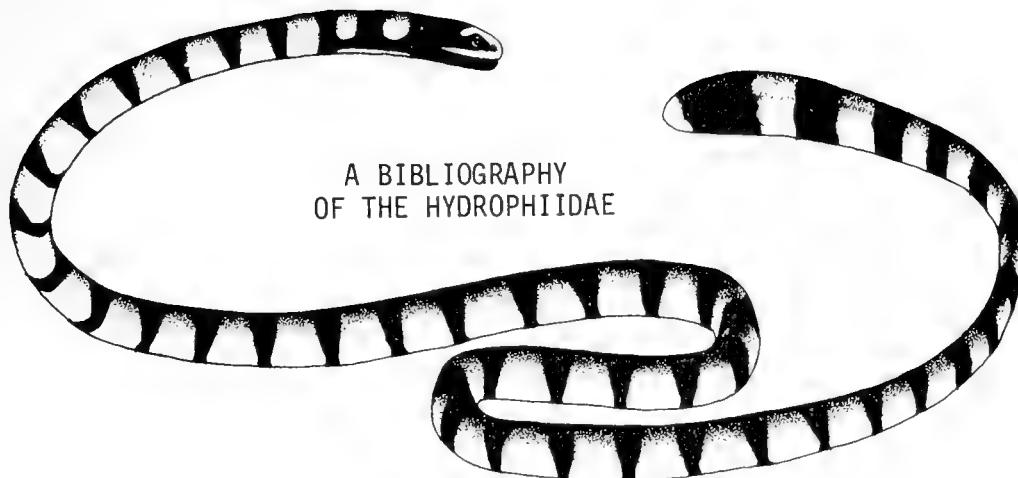
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## INTRODUCTION

Almost simultaneously, two bibliographies of sea snake literature were submitted for publication in the S.H.I.S. series. It was decided that a fusion of the two would provide the most useful reference for future workers; hence we assume responsibility for creating the joint authorship.

The references listed here were primarily gleaned from the literature before 1977, though some more recent works have been added. The major sources consulted in the literature search include the Zoological Record, Herpetological Review, and bibliographies of major works, most notably the recent book edited by William Dunson entitled "The Biology of Sea Snakes." The authors attempted to cover all aspects of the biology of sea snakes; however, no exhaustive effort was directed toward the literature on venoms, since much of this research is primarily of interest to biochemists, toxicologists, and other specialists not specifically concerned with sea snakes. The present bibliography is looked upon as a preliminary attempt. The authors express concern that obscure references may have been overlooked. In the interest of adding a supplement to the present work, it is requested that omitted references encountered by the reader be sent to the junior author for future inclusion.

Frances I. McCullough  
Editor



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Addenda:

Heatwole, H. 1978. Sea snake attacks - myth or menace? Skin-diving in Australia and New Zealand 8: 40-45.

Minton, S.A. Jr. and H. Heatwole. 1978. Snakes in the sea. *Oceans* (U.S.) 11: 53-56.

Pernetta, J.C. 1977. Observations on the habits and morphology of the sea snake Laticauda colubrina (Schneider) in Fiji. *Can. J. Zool.* 55: 1612-1619.

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A REVISED LIST OF THE  
HERPETOLOGICAL PUBLICATIONS OF THE  
NATIONAL MUSEUM OF NATURAL HISTORY (USNM),  
1853-1978



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DIVISION OF REPTILES & AMPHIBIANS  
NATIONAL MUSEUM OF NATURAL HISTORY  
WASHINGTON, DC 20560

SMITHSONIAN  
HERPETOLOGICAL INFORMATION  
SERVICE  
NO. 42

1979

Division of Reptiles & Amphibians  
National Museum of Natural History  
Washington, DC 20560

Cover illustration: Eleutherodactylus martinicensis (USNM 103967)  
rendered by Dermal Fold

## INTRODUCTION

The first list of USNM herpetological publications was issued in 1968 as No. 1 of the S.H.I.S. series. In preparing the list, J. A. Peters scanned the tables of contents of the various Smithsonian publications for articles specifically mentioning amphibians and reptiles; paleontological, parasitological and general natural history papers were not included.

In the ten years since the first list appeared, the Smithsonian publications series have changed significantly. The Bulletin, Proceedings, and Miscellaneous Collections all have been discontinued and replaced by the Contributions series, two of which (Smithsonian Contributions to Zoology and Smithsonian Contributions to Paleobiology) are potential outlets for herpetological papers. However, no pertinent publications had appeared in the latter series by the end of 1978.

In using, correcting, and updating the 1968 list I was confronted with decisions on exactly what should be included in a list of "herpetological" papers. It seemed highly superficial to list only those papers that mentioned amphibians or reptiles in the title, since several reviews with very significant herpetological information would have been excluded (e.g. Abbott, Proceedings, Vol. 16, No. 973). Similarly, it seemed unfair to bibliographers or authors of Catalogue accounts to exclude parasitological papers, since such peripheral information often is hardest to locate. The most difficult decision was where to cut off paleontological coverage. I felt that most of Gilmore's work on dinosaurs was inappropriate but that many fossil papers dealing with sub-recent material were pertinent. However, in working through the paleo titles I found that recent species were reported or discussed in papers on Pleistocene or even Pliocene faunas. Consequently, I decided to include all herpetological papers, fossil and recent.

Although I have tried to avoid arbitrariness, I confess that a certain degree has been necessary; for example, whether to include a paper on birds that discusses similarities between fossil birds and reptiles. My rationale for inclusion was whether or not the discussion was "significant"; certainly it cannot be denied that my concept of significance may not agree with others in the scientific community but I have tended to be liberal with my inclusions. I chose not to include papers in the "Explorations and Field Work" series that appeared from the 1920's to the 1940's. These titles would have greatly expanded this list and, although some useful information on localities, itineraries, etc. are contained in the summaries, no purely herpetological data are included.

I have long felt that a shortcoming of the first list was the lack of concern with dates of publication. Although most of the Smithsonian series have been fairly reliable about insuring that the proper year

of publication appears on separates, the exact date often is very useful when dealing with the nomenclature of older names. Consequently, I have expended considerable time and effort in establishing exact dates whenever possible. In some cases this was simple, since many of the recent papers had the dates printed on the separates, but more often than not some digging was necessary.

It was difficult to establish dates for earlier papers and in some cases it was not possible. The earliest volumes of the Proceedings were published by "signatures" of varying numbers of pages. Often the end of a given signature did not coincide with the end of a paper, so portions of one paper were published on one date and the remainder of the same paper may have appeared several months later. In these cases I have attempted to give inclusive dates for the entire paper, although the annotations for some signatures were very confusing.

At the back of the table of contents in Proceedings volumes 9-11, there is an explanation that the articles were "stereotyped" on the date at the bottom of the signature page but that the actual date of publication for each signature is given in the front of the volume. In these cases both the "stereotyped" date and the later "published" date are given, with the latter assumed to be the correct date of publication. Unfortunately, there is no indication if the same situation obtained with volumes 1-8 and a search of the records in the Smithsonian Archives and Press does not clarify the problem. Consequently, the signature dates are regarded as publication dates for volumes 1-8; it should be emphasized that some doubt exists and that additional data in the future could modify these dates.

Starting with Volume 12, each article was individually printed and the date of publication was more firmly established. These dates appeared in the Table of Contents for each volume, issued at the end of the year for inclusion in the bound set in the Smithsonian main library. From Volume 32 to Volume 54, dates of publication appeared on the cover of separates from the Proceedings; these dates were verified by cross-checking with the dates in the tables of contents.

A similarly chaotic system was used for the earlier Miscellaneous Collections; as a consequence, the Advertisement page for Volume 2, no. V lists 1862 as the date of publication but the various articles therein are dated from 1852 to 1862. Specifically, the Baird & Girard Catalogue (art. 49) has January 1853 on the cover and this date is verified in Baird's (see Bull. 20) and Girard's (Bull. 41) bibliographies.

The later Miscellaneous Collections followed much the same format as the Proceedings and dates were determined from the tables of contents. In some cases the "Quarterly Issue" Miscellaneous Collections were duplicated in the regular series. In the first edition of this list the "Quarterly Issue" numbers were listed separately and several titles were included incorrectly. I have attempted to minimize confusion by listing all under Miscellaneous Collections and using the earliest publication date when a paper appeared in both "series".

A limited number of copies of each Bulletin were stamped with the date of publication on the "Advertisement" page. Numbers 58 and 60 had the date printed on the title page.

The Contributions to Zoology also have a limited number stamped with the exact date of publication. These dates have been cross-checked with the typed tables of contents in the bound set in the Smithsonian reference collection.

If no specific date is included with the citation, it indicates that one could not be determined; two dates indicates disagreement between the dates stamped in two individual copies and the first date given is assumed to be correct.

For some of Cope's earlier papers in the Smithsonian series, I utilized the following reference to help determine proper dates:

Osborn, Henry Fairfield. 1930. Biographical memoir  
of Edward Drinker Cope 1840-1897. Nat. Acad. Sci.  
Biogr. Mem. 13(3):127-317.

Cope's annotated bibliography is found on pp. 172-317 and an explanation of the extensive research on publication dates and titles of Cope's many papers is given on p. 172.

#### AVAILABILITY

The publications on this list ARE NOT available for sale from the Division of Reptiles and Amphibians or the National Museum of Natural History or the Government Printing Office.

## SMITHSONIAN CONTRIBUTIONS TO ZOOLOGY

No. 1 -

(1969-Present)

No.

10. Myers, Charles W. & A. Stanley Rand. Checklist of amphibians and reptiles of Barro Colorado Island, Panama, with comments on faunal change and sampling. 11 pp. 13 Aug 1969.
59. Lachner, Ernest A., C. Richard Robins & Walter R. Courtenay. Exotic fishes and other aquatic organisms introduced into North America. 29 pp. 30 Sept 1970.
69. Peters, James A. Biostatistical programs in BASIC language for time-shared computers: Coordinated with the book "Quantitative Zoology". 46 pp. 1971.
83. Zug, George R. The distribution and patterns of the major arteries of the iguanids and comments on the intergeneric relationships of iguanids (Reptilia: Lacertilia). 23 pp. 7 Apr 1971.
101. Eisenberg, John F. & Melvin Lockhart. An ecological reconnaissance of Wilpattu National Park, Ceylon. 118 pp. 3 May 1972.
107. Peters, James A. A new approach in the analysis of biogeographic data. 28 pp. 21 Oct 1971.
145. Peters, James A. The frog genus Atelopus in Ecuador (Anura: Bufonidae). 49 pp. 19 or 20 July 1973.
176. Graham, Jeffrey B., ed. The biological investigation of Malpelo Island, Colombia. 98 pp. 18 July 1975.
199. Heyer, W. Ronald. A preliminary analysis of the intergeneric relationships of the frog family Leptodactylidae. 55 pp. 2 July 1975.
233. Heyer, W. Ronald & David S. Liem. Analysis of the intergeneric relationships of the Australian frog family Myobatrachidae. 29 pp. 9 Sept 1976.
242. Heyer, W. Ronald. Studies in larval amphibian partitioning. 27 pp. 29 Oct 1976.
276. Zug, George R. Anuran locomotion-- Structure and function, 2: Jumping performance of semiaquatic, terrestrial, and arboreal frogs. 31 pp. 15 Sept 1978.

## ANNUAL REPORTS OF THE SMITHSONIAN INSTITUTION

(1847-Present)

Currently called "Smithsonian Year"; inclusion of scientific papers  
was discontinued in 1964.

## YEAR

1854. Brainard, David. On the nature and cure of the bite of serpents and wounds of poisoned arrows. pp. 123-136. 1855.

1854. Head, J.F. Some remarks on the natural history of the country about Fort Ripley, Minnesota. pp. 291-293. 1855.

1854. Mann, Charles. Habits of a species of salamander (Ambystoma opacum) Bd. pp. 294-295. 1855.

1854. Hoy, P.R. On the Ambystoma luridum, a salamander inhabiting Wisconsin. p. 295. 1855.

1877. Weismann, August. On the change of the Mexican axolotl to an Ambystoma. pp. 349-375. 1878.

1888. Dall, William H. Professor Baird in Science. pp. 731-738. 1890.

1889. Lucas, Frederic A. Animals recently extinct, or threatened with extinction, as represented in the collections of the U.S. National Museum. pp. 609-649. 1891.

1893. Marey, E.J. Comparative locomotion of different animals. pp. 501-504. 1894.

1900. Lucas, Frederic A. The restoration of extinct animals. pp. 479-492. 1901.

1901. Lucas, Frederic A. The dinosaurs or terrible lizards. pp. 641-647. 1902.

1901. Langley, S.P. The greatest flying creature. pp. 649-653. 1902.

1901. Lucas, Frederic A. The greatest flying creature, the great pterodactyl Ornithostoma. pp. 654-659. 1902.

1902. Howes, G.B. The morphological method and recent progress in zoology. pp. 581-608. 1903.

1906. Andrews, C.W. The recently discovered Tertiary vertebrata of Egypt. pp. 295-307. 1907.

1911. Pozzi, S. The garden of serpents, Butantan, Brazil. pp. 441-446. 1912.

1912. Kammerer, Paul. Adaptation and inheritance in the light of modern experimental investigation. pp. 421-441. 1913.

1914. Baker, Frank. The National Zoological Park and its inhabitants. pp. 445-478. 1915.

1917. Safford, W.E. Natural history of Paradise Key and the nearby Everglades of Florida. pp. 377-434. 1919.

1917. Hollister, N. The National Zoological Park: A popular account of its collections. pp. 543-593. 1919.

1918. Gilmore, Charles W. Reptile reconstructions in the United States National Museum. pp. 271-280. 1920.

1920. Gilmore, Charles W. The horned dinosaurs. pp. 381-388. 1922.

1923. Matthew, W.D. Recent progress in vertebrate paleontology. pp. 273-289. 1925.

1923. Hollister, N. Animals in the National Zoological Park. pp. 291-338. 1925.

1923. Sowerby, Arthur de Cable. The natural history of China. pp. 351-368. 1925.

1925. McAtee, W.L. The role of vertebrates in the control of insect pests. pp. 415-437. 1926.

1929. Tolmachoff, I.P. Extinction and extermination. pp. 269-284. 1930.

1938. Walker, Ernest P. Eyes that shine at night. pp. 349-360. 1939.

1941. Walker, Ernest P. Care of captive animals. pp. 305-366. 1942.

1941. Stirling, M.W. Snake bites and the Hopi Snake Dance. pp. 551-555. 1942.

1943. Cochran, Doris M. Dangerous reptiles. pp. 275-323. 1944.

1951. Clark, A.H. The fauna of America. pp. 287-302. 1952.

1951. Leutscher, Alfred. The mechanics of snakes. pp. 303-312. 1952.

1952. Clark, A.H. The ecology, evolution, and distribution of the vertebrates. pp. 283-303. 1953.

1959. Goin, Coleman J. Amphibians, pioneers of terrestrial breeding habits. pp. 427-445. 1960.

1964. Russell, Findlay E. Venomous animals and their toxins. pp. 477-487. 1965.

## BULLETINS

(discontinued)

No. 1- No. 298 (1875-1971)

Bull.  
No.

1. Cope, E.D. Check list of North American Batrachia and Reptilia; with a systematic list of the higher groups, and an essay on geographical distribution. Based on the specimens contained in the U.S. National Museum. pp. 1-104. 1875.
6. Goode, G. Brown. Classification of the collection to illustrate the animal resources of the United States. A list of the substances derived from the animal kingdom, with synopsis of the useful and injurious animals and a classification of the methods of capture and utilization. xiii + 126 pp. 1876.
7. Streets, Thomas H. Contributions to the natural history of the Hawaiian and Fanning Islands and Lower California, made in connection with the United States North Pacific Surveying Expedition. 1873-75. pp. 1-172. 1877.
14. Goode, G. Brown. Catalogue of the collection to illustrate the animal resources and the fisheries of the United States, exhibited at Philadelphia in 1876 by the Smithsonian Institution and the United States Fish Commission... xvi+351 pp. 1879.
17. Cope, E.D. On the zoological position of Texas. pp. 1-51. 1880.
19. Scudder, Samuel H. Nomenclator Zoologicus. An alphabetical list of all generic names that have been employed by naturalists for recent and fossil animals from the earliest times to the close of the year 1879. I. Supplemental List II. Universal Index. xxi + 376 & 340 pp. 1882.
20. Goode, George Brown. Bibliographies of American Naturalists. I. The published writing of Spencer Fullerton Baird, 1843-1882. xvi + 377 pp. 1883.
24. Yarrow, H.C. Check list of North American Reptilia and Batrachia, with catalogue of specimens in U.S. National Museum. v + 249 pp. 1882 (1883 on front cover).
25. Jones, J. Matthew & G. Brown Goode, eds. Contributions to the natural history of the Bermudas. Pt. 6 Reptiles by Samuel Garman. xxiii + 353 pp. (285-303). 1884.
32. Cope, E.D. Catalogue of batrachians and reptiles of Central America and Mexico. ii + 98 pp. 1887.

34. Cope, E.D. The Batrachia of North America. pp. 1-525. 1889.

39. Stejneger, Leonhard. Directions for collecting and preserving specimens. Pt. E. Directions for collecting reptiles and batrachians. [with supplementary note giving directions for preserving small herpetological specimens in formalin]. pp. 1-13. 1891.

41. Goode, George Brown. Bibliographies of American naturalists. V. The published writings of Dr. Charles Girard. vi + 141 pp. 1891.

53. Merrill, George P. Catalogue of the type and figured specimens of fossils, minerals, rocks and ore in the Department of Geology, United States National Museum. Part II. Fossil vertebrates, fossil plants; minerals, rocks and ores. 370 pp. (pp. 63-81). 1907.

58. Stejneger, Leonhard. Herpetology of Japan and adjacent territory. xx + 577 pp. 22 July 1907.

61. Ruthven, Alexander G. Variations and genetic relationships of the garter-snakes. xii + 201 pp. 24 June 1908.

89. Gilmore, Charles Whitney. Osteology of the armored Dinosauria in the United States National Museum with special reference to the genus Stegosaurus. xi + 143 pp. 31 Dec 1914.

110. Gilmore, Charles Whitney. Osteology of the carnivorous Dinosauria in the United States National Museum, with special reference to the genera Antrodemus (Allosaurus) and Ceratosaurus. xi + 159 pp. 9 Sept 1920.

114. Blanchard, Frank N. A revision of the king snakes: Genus Lampropeltis. vi + 260 pp. 15 Sept 1921.

120. Metcalf, Maynard M. The opalinid ciliate infusorians. vii + 484 pp. 9 June 1923.

151. Loveridge, Arthur. East African reptiles and amphibians in the United States National Museum. v + 135 pp. 31 Dec 1929.

154. Burt, Charles E. A study of the teiid lizards of the genus Cnemidophorus with special reference to their phylogenetic relationships. viii + 286 pp. 24 Apr 1931.

160. Kellogg, Remington. Mexican tailless amphibians in the United States National Museum. iv + 224 pp. 19 May 1932.

171. Gidley, James W. & C. Lewis Gazin. The Pleistocene vertebrate fauna from Cumberland Cave, Maryland. vi + 99 pp. 5 May 1938.

175. Stull, Olive Griffith. Variations and relationships in the snakes of the genus Pituophis. vi + 225 pp. 26 June 1940.

177. Cochran, Doris M. The herpetology of Hispaniola. vii + 398 pp. 8 July 1941.

187. Smith, Hobart M. & Edward H. Taylor. An annotated checklist and key to the snakes of Mexico. iv + 239 pp. 5 Oct 1945.

194. Smith, Hobart M. & Edward H. Taylor. An annotated checklist and key to the amphibia of Mexico. iv + 118 pp. 17 or 18 June 1948.

199. Smith, Hobart M. & Edward H. Taylor. An annotated checklist and key to the reptiles of Mexico exclusive of the snakes. v + 253 pp. 16 or 20 Oct 1950.

206. Cochran, Doris M. Frogs of Southeastern Brazil. xvi + 423 pp. 22 June 1955.

220. Cochran, Doris M. Type specimens of reptiles and amphibians in the U.S. National Museum. xv + 291 pp. 24 Apr 1961.

288. Cochran, Doris M. & Coleman J. Goin. Frogs of Colombia. xii + 655 pp. 6 July 1970.

297. Peters, James A. & Braulio Orejas-Miranda. Catalogue of the Neotropical Squamata. Part I. Snakes. viii + 347 pp.  
 Peters, James A. & Roberto Donoso-Barros. Catalogue of the Neotropical Squamata. Part II. Lizards and amphisbaenians. viii + 293 pp. 24 Feb 1970.

#### MISCELLANEOUS COLLECTIONS

(including Quarterly Issue)  
 (discontinued)

Vol. 1 - Vol. 153

(1858 - 1969)

Pub.

Vol. No. No.

2 v 49. Baird, Spencer Fullerton and Charles Girard. Catalogue of North American Reptiles in the Museum of the Smithsonian Institution. Part I. Serpents. xvi + 172 pp. Jan 1853.

2 vii Owen, R. Reptiles. In Directions for collecting, preserving, and transporting specimens of natural history (Third Edition). 40 pp. (pp. 22-23). March 1959.

15 xi 320. Henry, Joseph. Circular relating to Collections of Living Reptiles. 2 pp. 1878.

517. Yarrow, H. C. Check list of North American Reptilia and Batrachia, based on specimens contained in the U.S. National Museum. 28 pp. 1883.

45 1425. Lucas, Frederic A. A new plesiosaur. p. 96. 9 Dec. 1903. (Quarterly Issue Vol. 1)

45 1450. Smith, Hugh M. Notes on the breeding habits of the yellow-bellied terrapin. pp. 252-253. 11 Apr 1904.

47 2 1487. Stejneger, Leonhard. A new species of lizard from the Riukiu Archipelago, Japan. pp. 294-295. 9 Nov 1904. (Quarterly Issue Vol. 2)

48 4 1696. Reese, Albert M. The breeding habits of the Florida alligator. pp. 381-387. 4 May 1907. (Quarterly Issue Vol. 3)

50 1 1706. Stejneger, Leonhard. A new calamariine snake from the Philippine Islands. pp. 30-31. 8 Apr 1907. (Quarterly Issue Vol. 4)

51 1 1791. Reese, Albert M. The development of the American alligator (A. mississippiensis). 66 pp. 1908.

52 4 1874. Stejneger, Leonhard. Description of a new frog from the Philippine Islands. pp. 437-439. 4 Aug 1909. (Quarterly Issue Vol. 5)

54 2 1922. Reese, Albert M. Development of the brain of the American alligator: The paraphysis and hypophysis. 20 pp. 1910.

56 11 1946. Reese, Albert M. Development of the digestive canal of the American alligator. 25 pp. 29 Oct 1910.

61 5 2184. Gilmore, Charles W. A new dinosaur from the Lance Formation of Wyoming. 5 pp. 24 May 1913.

61 8 2232. Foote, J. S. The Comparative histology of the Femur. 9 pp. 22 Aug 1913.

63 3 2262. Gilmore, Charles W. A new ceratopsian dinosaur from the upper Cretaceous of Montana, with note on Hypacrosaurus. 10 pp. 21 Mar 1914.

65 2 2356. Reese, Albert M. The development of the lungs of the alligator. 11 pp. 3 Mar 1915.

72 10 2652. Foote, J. S. The circulatory system in bone. 20 pp. 20 Aug 1921.

72 14 2663. Gilmore, Charles W. A new sauropod dinosaur from the Ojo Alamo Formation of New Mexico. 9 pp. 31 Jan 1922.

77 9 2832. Gilmore, Charles W. Fossil footprints from the Grand Canyon. 41 pp. 20 Jan 1926.

80 3 2917. Gilmore, Charles W. Fossil footprints from the Grand Canyon: Second contribution. 78 pp. 30 July 1927.

80 8 2956. Gilmore, Charles W. Fossil footprints from the Grand Canyon: Third contribution. 16 pp. 28 Jan 1928.

81 8 3010. Metcalf, Maynard M. Parasites and the aid they give in problems of taxonomy, geographical distribution, and paleogeography. 36 pp. 28 Feb 1929.

82 16 3110. Reese, Albert M. The ductless glands of Alligator mississippiensis. 14 pp. 9 Mar 1931.

89 1 3181. Schmidt, Karl Patterson. Amphibians and reptiles collected by the Smithsonian Biological Survey of the Panama Canal Zone. 20 pp. 16 Mar 1933.

91 11 3243. Chitwood, B. G. Two new nematodes. 4 pp. 13 Apr 1934.

92 7 3259. Cochran, Doris M. Herpetological collections from the West Indies made by Dr. Paul Bartsch under the Walter Rathbone Bacon Scholarship, 1928-30. 48 pp. 15 Oct 1934.

98 16 3541. McIntosh, Allen. A new dicrocoeliid trematode collected on the Presidential Cruise of 1938. 2 pp. 8 June 1939.

99 16 3602. Gilmore, Charles W. New fossil lizards from the upper Cretaceous of Utah. 3 pp. 9 Dec 1940.

99 19 3629. Smith, Hobart M. Notes on Mexican snakes of the genus Geophis. 6 pp. 19 Feb 1941.

99 20 3630. Smith, Hobart M. Further notes on Mexican snakes of the genus Salvadora. 12 pp. 21 Feb 1941.

101 2 3638. Mittleman, M. B. and Harry G. M. Jopson. A new salamander of the genus Gyrinophilus from the southern Appalachians. 5 pp. 14 July 1941.

102 3646. Vasquez de Espinoza, Antonio. Compendium and description of the West Indies. 862 pp. 1 Sept 1942.  
(Translated by Charles Upson Clark from original 17th Century manuscript. Spanish Edition is Vol. 108)

106 4 3848. Cochran, Doris M. Notes on the herpetology of the Pearl Islands, Panama. 8 pp. 24 June 1946.

106 8 3852. Schmidt, Karl Patterson. Turtles collected by the Smithsonian Biological Survey of the Panama Canal Zone. 9 pp. 1 Aug 1946.

106 13 3857. Gilmore, Charles W. A new carnivorous dinosaur from the Lance Formation of Montana. 19 pp. 12 Sept 1946.

106 19 3867. Reese, Albert M. The lamina terminalis and preoptic recess in Amphibia. 9 pp. 27 Jan 1947.

117 17 4096. Mittleman, M. B. A generic synopsis of the lizards of the subfamily Lygosominae. 35 pp. 4 Nov 1952.

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HERPETOGEOGRAPHY OF PUERTO RICO  
VI. A BIBLIOGRAPHY OF THE HERPETOLOGY OF PUERTO RICO  
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## INTRODUCTION

The herpetological literature on the Puerto Rican-Virgin Island area is extensive and scattered, with many papers appearing in obscure, easily-overlooked journals. The authors have spent considerable time and effort ferreting out this literature. The present bibliography is offered in order to save the large and ever-growing number of herpetologists interested in this region from having to duplicate such effort.

This list is comprehensive, though probably incomplete. Literature was intensively scanned through 1973; less concentrated efforts have yielded several more recent references. It is hoped that as literature overlooked by the present authors is discovered, and as new literature appears, other investigators will take it upon themselves to bring the bibliography up to date by contributing periodic supplements.

In some cases rather peripheral papers have been included if in addition to the central topic they embody discussion of Puerto Rican reptiles or amphibians. In some cases a note indicating the nature of the reference to Puerto Rican species is appended in parentheses.

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A BIBLIOGRAPHY OF THE  
BOG TURTLE, CLEMmys MUHLENBERGII

(BIOLOGY, ECOLOGY AND DISTRIBUTION)



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NO. 44

1979

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## INTRODUCTION

A great deal of popular interest has been generated about the bog turtle (Clemmys muhlenbergii) in recent years, resulting in status studies and research projects throughout the species' range. However, the gain in knowledge about this secretive turtle has been documented regularly in the literature with varying degrees of reliability since the early 1800's.

This bibliography organizes citations for most of the available scientific and popular papers on the bog turtle published up to 1 December 1978. The citations are numbered, then cross-indexed by subject. Relevant page numbers are given in parentheses following reference numbers. An (s) or (p) following the citation indicates whether the article has original data of scientific interest or general information written in a popular style. Significant data from all articles have been cross-indexed.

A contribution of Federal Aid under Endangered Species Project:  
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SUMMARY OF OXYGEN TRANSPORT CHARACTERISTICS OF REPTILIAN BLOOD



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NO. 45

1979

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## INTRODUCTION

The data included here form the basis of a review of the adaptations of the reptilian blood system for oxygen transport and delivery (Pough in press a). Table 1 includes data directly related to oxygen transport (hematocrit, hemoglobin concentration, blood oxygen capacity) and Table 2 summarizes measurements of the Bohr Effect. Information on blood oxygen affinities and heats of oxygenation has been presented elsewhere and is not included (Pough 1977a, b, in press a).

The measurements included have been drawn from diverse sources and various techniques of measurement were used. I soon realized that it was not practical to make distinctions among different techniques or methods of reporting data because in many instances the original sources did not provide the necessary information. I have generally retained the taxonomic designation employed by the original source; a few major changes are explained in footnotes. To be consistent with papers based on this summary (Pough in press a, b) I have used *Chrysemys* in place of *Pseudemys* and *Nerodia* for New World *Natrix*.

This summary incorporates and extends data presented in two earlier summaries (Dessauer 1970, MacMahon & Hamer 1975a). In every case I attempted to verify those data and I was successful in most instances. (In some cases I have chosen to report different values from the same sources.) There were a few plausible records in the earlier summaries that I could not trace. In those instances I have included the datum and cited the summary as its source.

Ontogenetic variation in the oxygen transport characteristics of reptilian blood is widespread and may be reflected by ontogenetic changes in ecology or behavior. (See Frair 1977 and Pough 1977c, d, 1978 for examples and a review.) Altitudinal variation has also been noted (Vinegar & Hillyard 1972, Weathers & White 1972, Ballinger & Newlin 1975, Newlin & Ballinger 1976). To stress the occurrence of such variation I have, in a number of instances, presented a range of values rather than mean values. For statistical analysis I used the mean value if it was provided by the source or could be calculated from the data; failing that I used the midpoint of the range. Mean values were calculated for families and higher taxa in two ways: (1) *By source*, using a single value for a species from each source. Mean values for families are presented only in this form. (2) *By species*, using a single value for each species calculated as the mean of the values reported for that species by all sources. The mean values obtained in these two ways do not differ.

I am grateful to Martin E. Feder who supplied unpublished data for several species of snakes, and to Amanda Midori Pough who helped to organize the literature citations. My own work reported here was supported primarily by the National Science Foundation (Grant GB-18,985).

Table 1 — SUMMARY OF BLOOD MEASUREMENTS OF REPTILES

The number of species that have been sampled in each family is shown. In the family averages the sample size is the total number of measurements represented.

Taxon	Hematocrit (percent)	Hemoglobin (g/100 ml blood)	Oxygen capacity (ml/100 ml blood)	Source
TURTLES				
Chelidae (1 species) <i>Chelys fimbriata</i>	26	6.4	—	Lenfant et al. 1970
Cheloniidae (5 species)				
<i>Caretta caretta</i>	32	—	—	Thorson 1968
<i>C. caretta</i>	21	7.0	5.6	Palomeque et al. 1977
<i>C. caretta</i>	19-40	—	—	Frair 1977
<i>Chelonia mydas</i>	31, 32	—	—	Thorson 1968
<i>C. mydas</i>	15-40	—	—	Frair 1977
<i>Eretmochelys imbricata</i>	15-43	—	—	Frair 1977
<i>Lepidochelys kempi</i>	32	—	—	Thorson 1968
<i>L. kempi &amp; L. olivacea</i>	20-40	—	—	Frair 1977
<i>L. olivacea</i>	32	—	—	Thorson 1968
Mean ± s.e.	29.5±1.2	7.0	5.6	
Chelydridae (1 species)				
<i>Chelydra serpentina</i>	20	—	5.9	Henderson 1928
<i>C. serpentina</i>	21	12.3	—	Gaumer & Goodnight 1957
<i>C. serpentina</i>	—	—	5.4-7.5	Steggerda & Essex 1957
<i>C. serpentina</i>	27	—	—	Thorson 1968
<i>C. serpentina</i>	21	5.5	—	Horton et al. 1972
<i>C. serpentina</i>	—	—	3.7	Pough 1976
Mean ± s.e.	22.2±1.6	8.9	5.4±0.85	
Emydidae (10 species)				
<i>Chrysemys concinna</i>	20-22	—	9.5-10.8	Southworth & Redfield 1926
<i>C. concinna</i>	—	8.1	—	Goin & Jackson 1965
<i>C. nelsoni</i>	—	8.4	—	Goin & Jackson 1965
<i>C. picta</i>	28	11.2	—	Gaumer & Goodnight 1957
<i>C. picta</i>	males	—	2.8-10.6	Payne & Burke 1964
<i>C. picta</i>	females	—	4.4-13.3	
<i>C. picta</i>	24	5.6	—	Horton et al. 1972
<i>C. picta</i>	—	—	5.6	Pough 1976
<i>C. scripta</i>	24-27	—	3.8-4.1	Wilson 1939
<i>C. scripta</i>	35	11.1	—	Gaumer & Goodnight 1957
<i>C. scripta</i>	24	5.7	—	Sheeler & Barber 1964
<i>C. scripta</i>	—	8.9	—	Goin & Jackson 1965
<i>C. scripta</i>	31	—	14.9	Frankel et al. 1966

Table 1

Taxon	Hematocrit (percent)	Hemoglobin (g/100 ml blood)	Oxygen capacity (ml/100 ml blood)	Source
<b>Emydidae (continued)</b>				
<i>C. scripta</i>	19	5.4	—	Horton et al. 1972
<i>C. scripta</i>	30	11.8	8.7	Burggren et al. 1977
<i>C. scripta</i>	—	—	5.8	Gatten 1975
<i>Deirochelys reticularia</i>	—	8.3	—	Goin & Jackson 1965
<i>Emys orbicularis</i>	25	6.9	9.4	Verjbiinskaya 1944
<i>E. orbicularis</i>	—	9.7	—	Kanungo 1961
<i>E. orbicularis</i>	—	7.2	—	Motelica et al. 1967
<i>E. orbicularis</i>	males	21	6.3	Palomeque et al. 1977
	females	18	6.9	
<i>Geomyda trijuga</i>	27	—	—	Nair 1955
<i>Malaclemys terrapin</i>	—	9.2	—	Goin & Jackson 1965
<i>M. terrapin</i>	31	—	—	Thorson 1968
<i>Terrapene carolina</i>	22	6.2	—	Wintrobe 1933
<i>T. carolina</i>	25	10.1	—	Gaumer & Goodnight 1957
<i>T. carolina</i>	males	27	6.2	Atland & Thompson 1958
	females	22	5.4	
<i>T. carolina</i>	males	—	—	Payne & Burke 1964
	—	—	2.5-8.9	
	—	—	3.4-11.8	
<i>T. carolina</i>	—	9.0	—	Goin & Jackson 1965
<i>T. carolina</i>	29	4.8	—	Horton et al. 1972
<i>T. carolina</i>	—	—	7.6	Pough 1976
<i>T. carolina</i>	—	—	7.1-7.8	Pough, unpublished
<i>T. ornata</i>	—	—	5.1	Gatten 1975
Mean ± s.e.	25.9±1.1	8.0±0.47	7.7±0.83	
<b>Kinosternidae (3 species)</b>				
<i>Kinosternon subrubrum</i>	23	—	—	Dessauer 1970
<i>Sternotherus minor</i>	—	9.9	—	Goin & Jackson 1965
<i>S. odoratus</i>	—	11.2	—	Goin & Jackson 1965
Mean	23	10.6		
<b>Pelomedusidae (1 species)</b>				
<i>Pelomedusa subrufra</i>	—	—	8.3	Wood & Johansen 1974
<b>Testudinidae (7 species)</b>				
<i>Gopherus polyphemus</i>	30	—	—	Thorson 1968
<i>Malacochersus tornieri</i>	23, 25	—	8.3, 8.5	Wood et al. 1978
<i>Testudo graeca</i>	34	14.4	9.8	Burggren et al. 1977
<i>T. hermanni</i>	males	44	13.7	Palomeque et al. 1977
	females	27	8.8	

Table 1

Taxon	Hematocrit (percent)	Hemoglobin (g/100 ml blood)	Oxygen capacity (ml/100 ml blood)	Source
Testudinidae (continued)				
<i>T. horsfieldi</i>	28	8.0	—	Korshuev et al. 1957
<i>T. kleinmanni</i> <sup>1</sup>	27	—	—	Khalil & Abdel-Messeih 1963
<i>T. pardalis</i>	—	—	10.0	Burggren et al. 1977
Mean ± s.e.	29.8±1.8	11.2±1.85	9.3±0.40	

Table 1

Taxon	Hematocrit (percent)	Hemoglobin (g/100 ml blood)	Oxygen capacity (ml/100 ml blood)	Source
CROCODYLIANS				
<i>Alligatoridae</i> (2 species)				
<i>Alligator mississippiensis</i>	14	—	12.0	Hopping 1923
<i>A. mississippiensis</i>	30	8.2	—	Wintrobe 1933
<i>A. mississippiensis</i>	26-31	—	7.7-14.6 <sup>2</sup>	Dill & Edwards 1935
<i>A. mississippiensis</i>	16-29	5.0-9.2	—	Coulson et al. 1950
<i>A. mississippiensis</i>	—	—	8.1-10.5	Andersen 1961
<i>A. mississippiensis</i>	25	—	—	Thorson 1968
<i>A. mississippiensis</i>	20	—	—	Dessauer 1970
<i>Caiman fuscus</i>	—	—	8.2-9.0 <sup>2</sup>	Dill & Edwards 1931
<i>C. fuscus</i>	26	—	—	Thorson 1968
Mean ± s.e.	23.5±2.0	7.6	10.3±0.80	
<i>Crocodylidae</i> (3 species)				
<i>Crocodylus acutus</i>	—	—	8.2-10.1 <sup>2</sup>	Dill & Edwards 1931
<i>C. acutus</i>	26	—	—	Thorson 1968
<i>C. morleti</i>	26	—	—	Thorson 1968
<i>C. niloticus</i>	35	—	—	Khalil & Abdel-Messeih 1963
Mean ± s.e.	29.0±1.8	—	10.1	

Table 1.

Taxon	Hematocrit (percent)	Hemoglobin (g/100 ml blood)	Oxygen capacity (ml/100 ml blood)	Source
LIZARDS				
<b>Agamidae (5 species)</b>				
<i>Agama atra</i>	32	7.5-8.0	—	Villiers Pienaar 1962
<i>A. caucasica</i>	28	8.2	11.7	Verjbiinskaya 1944
<i>A. lehmani</i>	24	7.5	—	Korshuev et al. 1957
<i>Calotes versicolor</i>	—	8.6	—	Banerjee & Sharau 1972
<i>Uromastyx</i> sp.	—	4.6	—	Dessauer 1970
<i>Uromastyx hardwickii</i>	34	—	—	Menon 1954
Mean ± s.e.	29.5±2.2	7.3±0.71	11.7	
<b>Anguidae (5 species)</b>				
<i>Anguis fragilis</i>	—	11.3	—	Dessauer 1970
<i>Gerrhonotus coeruleus</i>	—	—	6.8	Pough, unpublished
<i>G. multicarinatus</i>	—	—	12.6	Dawson & Poulson 1962
<i>G. multicarinatus</i>	—	—	6.7	Pough 1976
<i>Ophisaurus apodus</i>	24	7.8	9.8	Verjbiinskaya 1944
<i>O. apodus</i>	22	4.7	—	Korshuev et al. 1957
<i>O. ventralis</i>	31	6.9	—	Dessauer 1970
Mean ± s.e.	25.7±2.7	7.7±1.38	9.0±1.41	
<b>Cordylidae (2 species)</b>				
<i>Cordylus giganteus</i>	35	9.0	—	Villiers Pienaar 1962
<i>C. vittifer</i>	32	8.0	—	Villiers Pienaar 1962
Mean	33.5	8.5		
<b>Gekkonidae (3 species)</b>				
<i>Coleonyx variegatus</i>	—	6.7	—	Ryerson 1949
<i>Hemidactylus flaviviridis</i>	10-15	11.7	—	Banerjee & Banerjee 1965
<i>H. turcicus</i>	—	10.8	—	Goin & Jackson 1965
Mean ± s.e.	12.5	9.7±1.54	—	
<b>Helodermatidae (2 species)</b>				
<i>Heloderma horridum</i>	21,30	6.8,9.0	—	Zarafonetis & Kalas 1960
<i>H. suspectum</i>	25-42	—	9.7-11.9 <sup>2</sup>	Edwards & Dill 1935
<i>H. suspectum</i>	—	7.2	—	Ryerson 1949
Mean	29.8	7.6	10.8	
<b>Iguanidae (27 species)</b>				
<i>Anolis carolinensis</i>	—	12.0	—	Goin & Jackson 1965
<i>A. carolinensis</i>	28	—	—	Dessauer 1970
<i>Crotaphytus collaris</i>	—	—	10.4	Dawson & Poulson 1962
<i>Ctenosaura acanthura</i>	35	—	—	Hernandez & Coulson 1951

Table 1

Taxon	Hematocrit (percent)	Hemoglobin (g/100 ml blood)	Oxygen capacity (ml/100 ml blood)	Source
<b>Iguanidae (continued)</b>				
<i>Dipsosaurus dorsalis</i>	—	—	9.6	Dawson & Poulson 1962
<i>D. dorsalis</i>	—	—	9.3	Pough 1976
<i>Gambelia wislizeni</i>	—	—	10.4	Dawson & Poulson 1962
<i>Holbrookia texana</i>	—	—	7.8	Dawson & Poulson 1962
<i>Iguana iguana</i>	25-36	3.8-12.0	5.1-16.1	Hernandez & Coulson 1951
<i>I. iguana</i>	31	—	8.4	Tucker 1966
<i>I. iguana</i>	30	—	—	Thorson 1968
<i>I. iguana</i>	33	8.4	10.5	Wood & Moberly 1970
<i>I. iguana</i>	—	—	7.9	Pough 1976
<i>Liolaemus multiformis</i>	34	10.1	—	Engbretson & Hutchison 1976
<i>Phrynosoma cornutum</i>	—	—	9.3	Dawson & Poulson 1962
<i>P. douglassi</i>	—	—	10.2	Dawson & Poulson 1962
<i>P. modestum</i>	—	—	12.1	Dawson & Poulson 1962
<i>P. solare</i>	—	7.5	—	Ryerson 1949
<i>Sauromalus hispidus</i>	33	—	9.7	Bennett 1973
<i>S. obesus</i>	29-33	—	10.1-12.7 <sup>2</sup>	Dill et al. 1935
<i>S. obesus</i>	—	—	9.8	Pough 1976
<i>S. obesus</i>	—	—	10.8	Pough, unpublished
<i>Sceloporus clarkii</i>	—	—	8.3	Dawson & Poulson 1962
<i>S. graciosus</i>	—	—	10.9	Dawson & Poulson 1962
<i>S. jarrovi</i>	5100 ft above sea level	—	7.7	Dawson & Poulson 1962
	8600 ft above sea level	—	8.3	
<i>S. jarrovi</i>	—	7.2-9.3	—	Vinegar & Hillyard 1972
<i>S. jarrovi</i>	—	9.0-12.4	—	Ballinger & Newlin 1975
<i>S. magister</i>	—	—	10.9	Ryerson 1949
<i>S. magister</i>	—	—	8.9	Pough 1976
<i>S. occidentalis</i>	—	—	9.5	Dawson & Poulson 1962
<i>S. occidentalis</i>	sea level	31	9.1	Weathers & White 1972
	2750-3200 m	39	9.7	
<i>S. occidentalis</i>	—	—	7.5-9.7	Vinegar & Hillyard 1972
<i>S. occidentalis</i>	—	—	5.8	Pough 1976
<i>S. orcutti</i>	—	—	8.0	Pough 1976
<i>S. poinsetti</i>	—	—	10.0	Dawson & Poulson 1962
<i>S. poinsetti</i>	—	6.6	—	Newlin & Ballinger 1976
<i>S. scalaris</i>	—	12.2	—	Newlin & Ballinger 1976
<i>S. virgatus</i>	—	—	9.6	Dawson & Poulson 1962
<i>S. virgatus</i>	—	8.9	—	Newlin & Ballinger 1976
<i>Uma notata</i>	—	—	9.1	Pough 1976
<i>U. scaparia</i>	—	—	6.8	Pough 1976
<i>Urosaurus ornatus</i>	—	9.6, 8.5	—	Newlin & Ballinger 1976
<i>Uta stansburiana</i>	—	—	8.7	Dawson & Poulson 1962
<i>U. stansburiana</i>	—	—	9.2	Pough 1976
Mean ± s.e.		32.0±0.80	9.1±0.52	9.2±0.25

Table 1

Taxon	Hematocrit (percent)	Hemoglobin (g/100 ml blood)	Oxygen capacity (ml/100 ml blood)	Source
<b>Lacertidae (5 species)</b>				
<i>Acanthodactylus erythrurus</i>	—	—	4.7	Pough, unpublished
<i>Lacerta agilis</i>	24	8.7	—	Korshuev et al. 1957
<i>L. muralis</i>	—	9.0	—	Dessauer 1970
<i>L. viridis</i>	—	12.5	—	Motelica et al. 1967
<i>Psammodromus algericus</i>	—	—	4.0	Pough, unpublished
Mean ± s.e.	24	10.1±1.22	4.4	
<b>Scincidae (2 species)</b>				
<i>Egernia cunninghami</i>	23	7.6	—	Maclean et al. 1975
<i>Eumeces obsoletus</i>	—	—	10.8-14.4	Dawson 1960
Mean	23	7.6	12.5	
<b>Teiidae (4 species)</b>				
<i>Cnemidophorus inornatus</i>	—	—	10.8	Dawson & Poulson 1962
<i>C. sacki</i>	—	—	11.6	Dawson & Poulson 1962
<i>C. tigris</i>	—	—	9.6	Dawson & Poulson 1962
<i>Tupinambis teguixin</i>	—	—	9.5	Pough 1976
Mean ± s.e.	—	—	10.4±0.50	
<b>Varanidae (5 species)</b>				
<i>Varanus exanthematicus</i>	—	—	10.1	Wood et al. 1977
<i>V. gouldi</i>	29	—	8.0	Bennett 1973
<i>V. griseus</i>	35	—	—	Nair 1955
<i>V. griseus</i>	27-36	—	6.0-6.8	Khalil & Abdel-Messeih 1961
<i>V. griseus</i>	27	—	—	Khalil & Abdel-Messeih 1963
<i>V. monitor</i>				Banerjee 1966
males	36	12.3	—	
females	30	10.6	—	
<i>V. monitor</i>	—	10.0-13.0	—	Banerjee & Banerjee 1969
<i>V. niloticus</i>	24	7.1	9.3	Wood & Johansen 1974
Mean ± s.e.	30.0±1.7	10.0±1.43	8.4±0.81	

Table 1

Taxon	Hematocrit (percent)	Hemoglobin (g/100 ml blood)	Oxygen capacity (ml/100 ml blood)	Source
SNAKES				
<b>Acrochordidae (2 species)</b>				
<i>Acrochordus granulatus</i>	41	—	16.2	Feder, personal communication
<i>A. javanicus</i>	21	6.0	9.3	Johansen & Lenfant 1972
Mean	31	6.0	12.8	
<b>Boidae (5 species)</b>				
<i>Constrictor constrictor</i>	29	—	—	Thorson 1968
<i>C. constrictor</i>	27	9.1	13.5	Johansen & Lenfant 1972
<i>Eryx jaculus</i>	25	6.9	—	Korshuev et al. 1957
<i>E. johni</i>	—	—	6.4	Pough, unpublished
<i>Python molurus</i>	—	—	5.7	Pough, unpublished
<i>P. reticulatus</i>	—	—	7.1	Pough, unpublished
Mean ± s.e.	27.0±1.2	8.0	8.2±1.80	
<b>Colubridae (26 species)</b>				
<i>Cerberus rhynchops</i>	32	—	3.6	Feder, personal communication
<i>Coluber constrictor</i>	26	—	—	Hutton 1958
<i>C. florulentus</i>	26	—	—	Khalil & Abdel-Messeih 1963
<i>Drymarchon corais</i>	—	—	4.2	Pough, unpublished
<i>Elaphe guttata</i>	33	—	4.2	Pough, unpublished
<i>E. obsoleta</i>	26-34	—	6.7	Pough, unpublished
<i>Farancia abacura</i>	—	7.5	—	Goin & Jackson 1965
<i>Heterodon platyrhinos</i> <sup>3</sup>	13,24	3.7,7.5	—	Wintrobe 1933
<i>Lampropeltis getulus</i>	22	—	—	Hutton 1958
<i>L. getulus</i>	—	—	4.5	Pough, unpublished
<i>L. triangulum</i>	—	—	8.7	Pough 1976
<i>Liodytes alleni</i>	—	13.0	—	Goin & Jackson 1965
<i>Masticophis flagellum</i>	28-32	—	—	Pough, unpublished
<i>Natrix natrix</i>	32-34	—	—	Binyon & Twigg 1965
<i>N. natrix</i>	—	10.4	—	Motelica et al. 1967
<i>N. natrix</i>	37	—	—	Munday & Blane 1961
<i>N. piscator</i>	24	—	—	Nair 1955
<i>N. tessellatus</i>	33	—	—	Khalil & Abdel-Messeih 1963
<i>Nerodia cyclopion</i>	—	6.5	—	Goin & Jackson 1965
<i>N. fasciata</i> <sup>4</sup>	22	—	—	Hutton 1958
<i>N. rhombifera</i>	—	—	7.6	Pough, unpublished
<i>N. sipedon</i>	36	10.0	—	Wintrobe 1933
<i>N. sipedon</i>	—	7.5	—	Goin & Jackson 1965
<i>N. sipedon</i>	23	—	—	Dessauer 1970
<i>N. sipedon</i>	—	—	11.1	Pough 1976
<i>N. sipedon</i>	—	—	3.1-11.9	Pough 1978
<i>Pituophis melanoleucus</i>	—	8.8	—	Ryerson 1949

Table 1.

Taxon	Hematocrit (percent)	Hemoglobin (g/100 ml blood)	Oxygen capacity (ml/100 ml blood)	Source
<b>Colubridae (continued)</b>				
<i>P. melanoleucus</i>	30	—	—	Thorson 1968
<i>P. melanoleucus</i>	24	—	9.3	Greenwald 1971
<i>P. melanoleucus</i>	—	—	11.4	Pough 1976
<i>P. melanoleucus</i>	29-33	—	—	Smeller et al. 1978
<i>Ptyas mucosus</i>	52	—	—	Nair 1955
<i>Storeria dekayi</i>	—	10.8	—	Goin & Jackson 1965
<i>Thamnophis couchi</i>	—	—	9.0	Pough, unpublished
<i>T. elegans</i>	25	—	—	Dessauer 1970
<i>T. sauritus</i>	30	—	—	Dessauer 1970
<i>T. sirtalis</i>	19, 37	5.8, 11.3	—	Wintrobe 1933
<i>T. sirtalis</i>	—	8.1	—	Isaacs 1938
<i>T. sirtalis</i>	33	—	—	Dessauer 1970
<i>T. sirtalis</i>	—	—	9.5	Pough 1976
<i>T. sirtalis</i>	13-30	7.2-12.7	3.9-9.9	Pough 1977
Mean ± s.e.	29.2±1.4	8.9±0.59	7.4±0.69	
<b>Elapidae (2 species)</b>				
<i>Naja naja</i>	24	—	—	Nair 1955
<i>Pseudechis porphyriacus</i>	28	8.6	10.9	Seymour 1976
Mean	26	8.6	10.9	
<b>Hydrophiidae (8 species)</b>				
<i>Acalyptophis peronii</i>	—	10.7	—	Seymour & Webster 1975
<i>Aipsyurus laevis</i>	—	6.4	—	Seymour & Webster 1975
<i>Emydocephalus annulatus</i>	—	7.3	—	Seymour & Webster 1975
<i>E. annulatus</i>	31	—	6.5	Feder, personal communication
<i>Hydrophis cyanocinctus</i> <sup>5</sup>	32	—	—	Nair 1955
<i>H. elegans</i>	—	14.3	—	Seymour & Webster 1975
<i>H. melanocephalus</i> <sup>6</sup>	—	8.9	—	Seymour & Webster 1975
<i>Lapemis hardwicki</i>	—	11.7	—	Seymour & Webster 1975
<i>Laticauda colubrina</i>	24	6.2	9.3	Seymour 1976
<i>L. colubrina</i>	35	—	11.0	Feder, personal communication
Mean ± s.e.	30.5±2.3	9.4±1.14	8.9±1.31	
<b>Viperidae (8 species)</b>				
<i>Agkistrodon contortrix</i>	28	—	—	Dessauer 1970
<i>A. piscivorus</i>	18	—	—	Hutton 1958
<i>A. piscivorus</i>	19	—	—	Dessauer 1970
<i>Bitis arietans</i>	16-24	5.0-7.2	—	Otis 1973
<i>Bothrops</i> sp.	—	7.8	—	MacMahon & Hamer 1975a
<i>Crotalus cerastes</i>	22-31	6.4-8.1	7.6-10.8 <sup>7</sup>	MacMahon & Hamer 1975a,b
<i>C. horridus</i>	45	8.6	—	Dessauer 1970
<i>Vipera aspis</i>	—	10.5	—	Dessauer 1970

Table 1

Taxon	Hematocrit (percent)	Hemoglobin (g/100 ml blood)	Oxygen capacity (ml/100 ml blood)	Source
<b>Viperidae (continued)</b>				
<i>V. berus</i>	—	12.3	—	Motelica et al. 1967
<i>V. russelli</i>	22	—	—	Nair 1955
Mean ± s.e.	25.5±3.6	8.8±0.93	9.2	
<b>Xenopeltidae (1 species)</b>				
<i>Xenopeltis unicolor</i>	—	—	10.0	Pough, unpublished

<sup>1</sup>Identified as *Testudo leithii* in source.

<sup>2</sup>Calculated from a unit weight of 17,000 for hemoglobin. 1 mM/l or 1 meq/l = 2.24 vol%.

<sup>3</sup>Identified as *Heterodon contortrix* in source.

<sup>4</sup>Identified as *Natrix sipedon pictiventris* in source.

<sup>5</sup>Identified as *Distira cyanocincta* in source.

<sup>6</sup>Identification corrected from *Hydrophis belcheri* by Seymour (1978).

<sup>7</sup>Correct mean value is 10.75 vol% (J. A. MacMahon, personal communication).

## Mean Values of All Records (n = number of records)

	<u>Hematocrit</u>	<u>Hemoglobin</u>	Blood Oxygen Capacity
ALL TURTLES (59 records)			
Mean $\pm$ s.e. (n)	26.9 $\pm$ 0.7(38)	8.5 $\pm$ 0.46(29)	7.6 $\pm$ 0.55(21)
ALL CROCODILIANS (13 records)			
Mean $\pm$ s.e. (n)	25.2 $\pm$ 1.8(10)	7.6(2)	10.1 $\pm$ 0.65(5)
ALL LIZARDS (84 records)			
Mean $\pm$ s.e. (n)	29.4 $\pm$ 0.9(30)	8.8 $\pm$ 0.34(36)	9.2 $\pm$ 0.27(49)
ALL SNAKES (72 records)			
Mean $\pm$ s.e. (n)	28.5 $\pm$ 1.1(42)	8.8 $\pm$ 0.42(29)	8.4 $\pm$ 0.58(26)
ALL REPTILES (228 records)			
Mean $\pm$ s.e. (n)	27.9 $\pm$ 0.5(120)	8.7 $\pm$ 0.23(96)	8.7 $\pm$ 0.24(101)

## Mean Values of All Species (n = number of species tested)

	<u>Hematocrit</u>	<u>Hemoglobin</u>	Blood Oxygen Capacity
ALL TURTLES (28 species)			
Mean $\pm$ s.e. (n)	27.6 $\pm$ 0.9(21)	8.9 $\pm$ 0.50(16)	7.8 $\pm$ 0.48(13)
ALL CROCODILIANS (5 species)			
Mean $\pm$ s.e. (n)	27.2 $\pm$ 2.0(5)	7.6(1)	9.5 $\pm$ 0.66(3)
ALL LIZARDS (60 species)			
Mean $\pm$ s.e. (n)	29.3 $\pm$ 1.1(24)	8.7 $\pm$ 0.35(32)	9.2 $\pm$ 0.30(38)
ALL SNAKES (52 species)			
Mean $\pm$ s.e. (n)	28.6 $\pm$ 1.3(33)	8.8 $\pm$ 0.44(27)	8.3 $\pm$ 0.72(20)
ALL REPTILES (145 species)			
Mean $\pm$ s.e. (n)	28.4 $\pm$ 0.6(83)	8.8 $\pm$ 0.24(76)	8.7 $\pm$ 0.27(74)

Table 2 — BOHR EFFECT IN WHOLE BLOOD OF REPTILES

Species	Bohr Effect ( $\Delta P_{50}/\Delta pH$ )	Source
TURTLES		
<i>Chelys fimbriata</i>	-0.56	Lenfant et al. 1970
<i>Caretta caretta</i>	-0.55	Palomeque et al. 1977
<i>Emys orbicularis</i>	-0.62	Palomeque et al. 1977
<i>Chrysemys scripta</i>	-0.28	Burggren et al. 1977
<i>Pelomedusa subrufra</i>	-0.45	Wood & Johansen 1974
<i>Malacochersus tornieri</i>		Wood et al. 1978
acclimated and tested at 20 C	-0.37	
acclimated and tested at 35 C	-0.54	
<i>Testudo graeca</i>	-0.28	Burggren et al. 1977
<i>Testudo hermanni</i>	-0.67	Palomeque et al. 1977
<i>Testudo pardalis</i>	-0.30	Burggren et al. 1977
CROCODILIANS		
<i>Alligator mississippiensis</i>	-0.80	Dill & Edwards 1935
<i>Crocodylus acutus</i>	-0.76	Dill & Edwards 1931
<i>Crocodylus porosus</i>		Bauer & Jelkman 1977
[H <sup>+</sup> ] varied	-0.43	
pCO <sub>2</sub> varied	-0.66	
LIZARDS		
<i>Heloderma suspectum</i>	-0.53	Dill & Edwards 1935
<i>Iguana iguana</i>	-0.52	Wood & Moberly 1970
<i>Sauromalus hispidus</i>	-0.65	Bennett 1973
<i>Varanus exanthematicus</i>	-0.30	Wood et al. 1977
<i>Varanus niloticus</i>	-0.48	Wood & Johansen 1974
SNAKES		
<i>Acrochordus javanicus</i>	-1.64	Johansen & Lenfant 1972
<i>Constrictor constrictor</i>	-0.40	Johansen & Lenfant 1972
<i>Pseudechis porphyriacus</i>	-0.62	Seymour 1976
<i>Aipysurus laevis</i>	-0.05	Seymour & Webster 1975
<i>Emydocephalus annulatus</i>	-0.12	Seymour & Webster 1975
<i>Hydrophis elegans</i>	+0.01	Seymour & Webster 1975
<i>Hydrophis melanocephalus</i> <sup>1</sup>	-0.01	Seymour & Webster 1975
<i>Lapemis hardwickii</i>	+0.08	Seymour & Webster 1975
<i>Laticauda colubrina</i>	-0.25	Seymour 1976

<sup>1</sup>Corrected from *H. belcheri* by Seymour (1978).

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A BIBLIOGRAPHY OF ENDANGERED AND THREATENED AMPHIBIANS AND  
REPTILES IN THE UNITED STATES AND ITS TERRITORIES  
(CONSERVATION, DISTRIBUTION, NATURAL HISTORY, STATUS)

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SMITHSONIAN  
HERPETOLOGICAL INFORMATION  
SERVICE  
NO. 46

1979

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## Introduction

Among scientists, conservationists, and the general public, there has been an increasing awareness that many species of animals and plants are in danger of extinction throughout all or at least large parts of their present and/or historical ranges. This awareness has generated strong support for various types of protective measures, whether legislation governing trade, collecting, or habitat modification, to the establishment of wildlife preserves and parks. While some individuals still scoff at such protective measures, a majority has come to recognize the plight of endangered and threatened species. More controversy has been generated concerning the methods of protection than the need for such; hopefully such difficulties will be eliminated in future exchanges between scientific, management, conservation, and legislative interests. Scientific research, and the free exchange of both preserved museum specimens and parts of animals (for instance, blood samples, sperm samples, tissues) is vital to the goal of protecting wildlife and should be encouraged with as little regulation as possible.

This bibliography provides a basic source of information directed at understanding the natural history, status, and causes of decline of 34 species and subspecies of amphibians and reptiles either listed or proposed for listing under provisions of the Endangered Species Act of 1973 within the United States and its territories (Puerto Rico, Virgin Islands, Trust Territory, American Samoa, Guam, and Northern Marianas). While no bibliography on this subject can probably ever be complete, this one should provide a solid foundation from which to work. Additional information concerning U.S. herpetofauna and government conservation activities may be found in the Endangered Species Technical Bulletin, published monthly by the Office of Endangered Species, U.S. Fish and Wildlife Service.

Those species covered by the bibliography include:

Alligator mississippiensis  
Ambystoma macrodactylum croceum  
Ameiva polops  
Anolis roosevelti  
Batrachoseps aridus  
Bufo exsul  
Bufo houstonensis  
Caretta caretta  
Chelonia mydas  
Chrysemys rubriventris bangsi  
Crocodylus acutus  
Crocodylus novaeguineae mindorensis  
Crotalus willardi obscurus  
Crotaphytus silus  
Cyclura stejnegeri  
Dermochelys coriacea  
Drymarchon corais couperi

Eleutherodactylus jasperi  
Epicrates inornatus  
Epicrates monensis monensis  
Eretmochelys imbricata  
Eurycea nana  
Gopherus agassizii (Beaver Dam Slope)  
Hyla andersonii (FL)  
Kinosternon bauri bauri  
Kinosternon flavescens spooneri  
Klauberina riversiana  
Lepidochelys kempii  
Lepidochelys olivacea  
Nerodia fasciata taeniata  
Phaeognathus hubrichti  
Thamnophis sirtalis tetrataenia  
Typhlomolge rathbuni  
Uma inornata

Finally, I thank the many people who provided references during the course of compiling this list.

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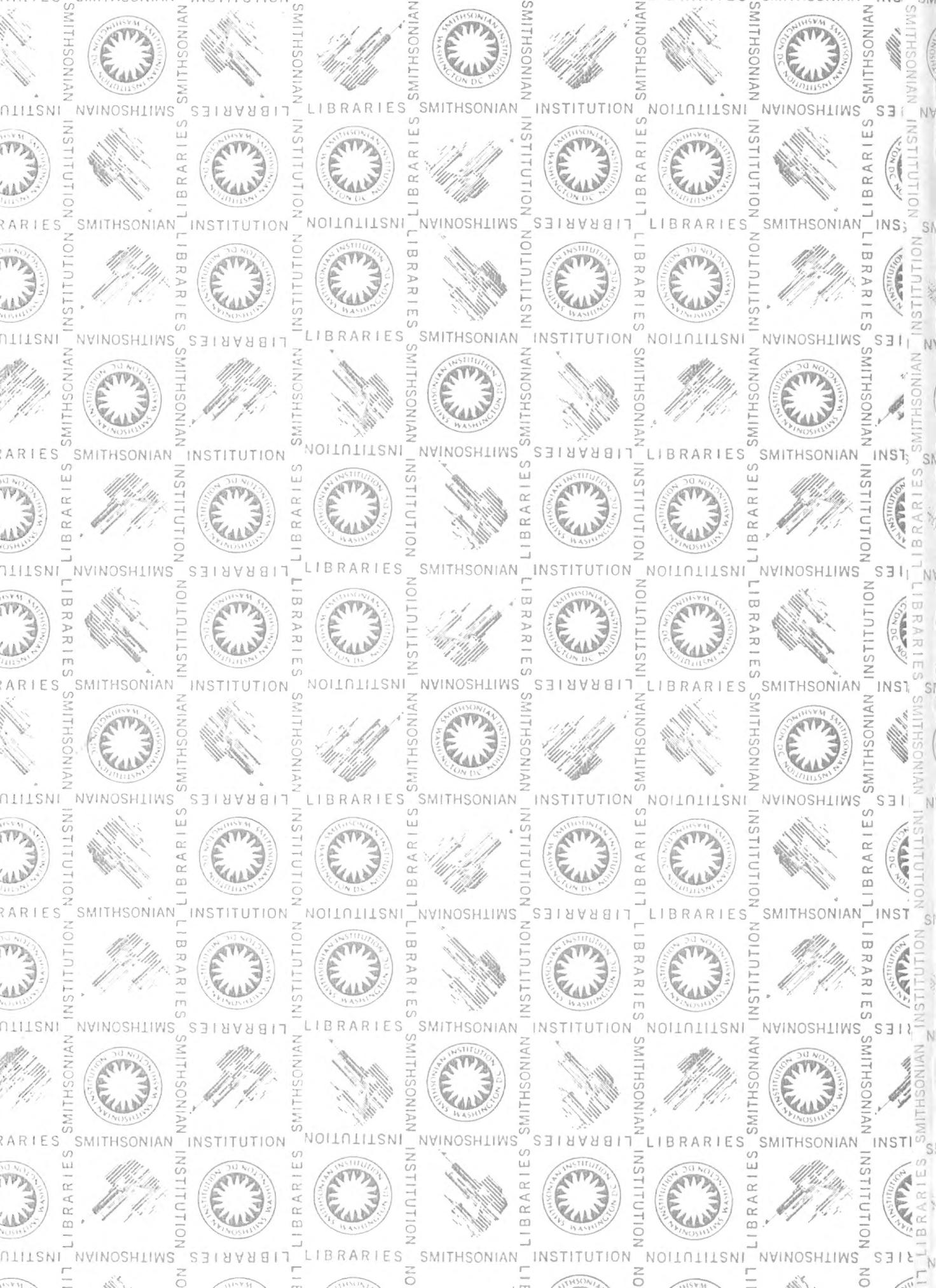
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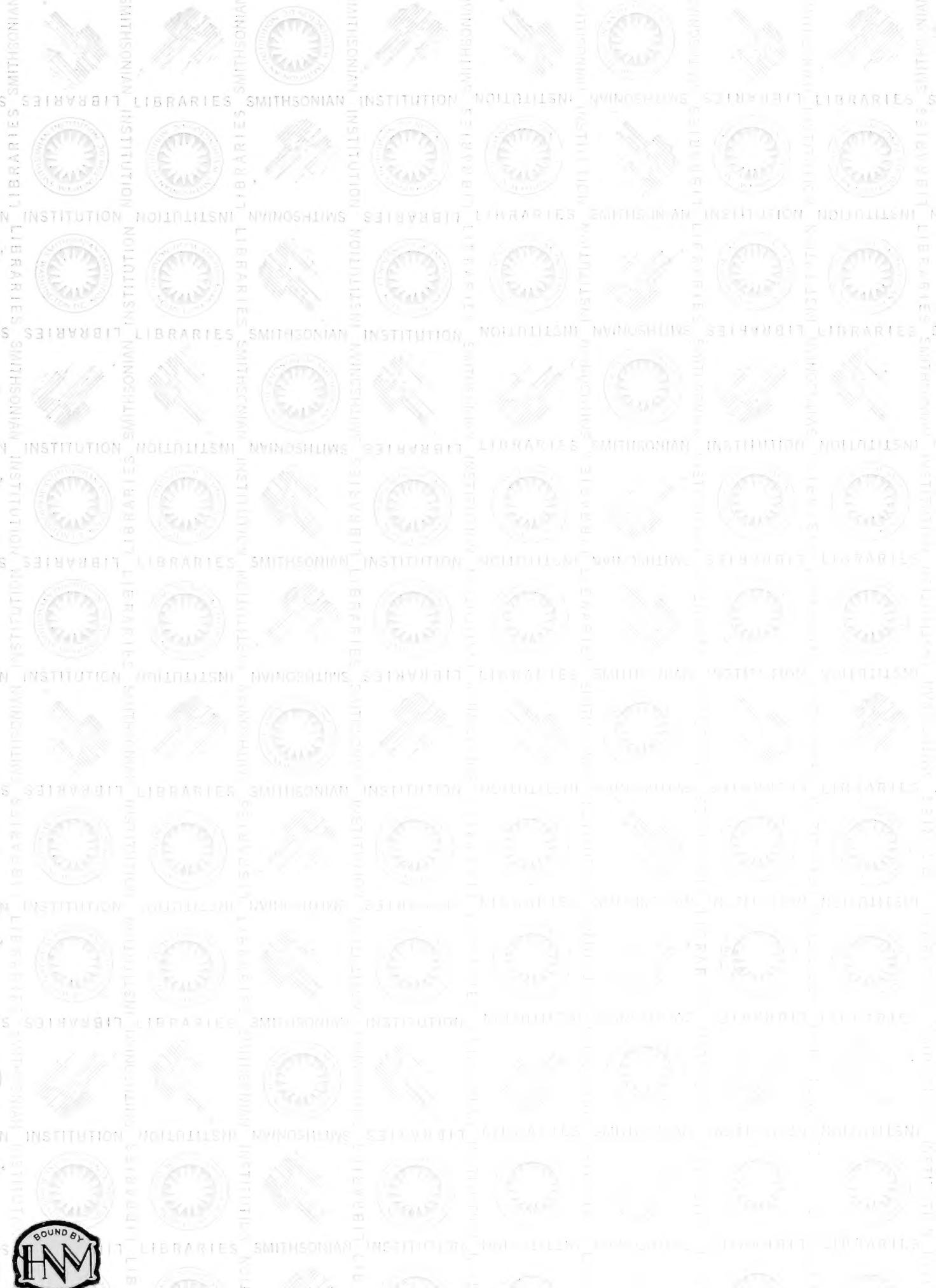












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